

**EXHIBIT 132
FILED UNDER SEAL**

1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA
3 SAN FRANCISCO DIVISION
4

5 WAYMO LLC,
6

7 Plaintiff,
8

9 vs.
10

11 Case
12

13 No. 3:17-cv-00939-WHA
14

15 UBER TECHNOLOGIES, INC.;
16 OTTOMOTTO LLC; OTTO TRUCKING LLC,
17 Defendants,
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16

17 VIDEOTAPED DEPOSITION OF JAMES HASLIM
18

19 THURSDAY, MAY 4, 2017
20

21

22

23 Reported by:
24

25 Anrae Wimberley
26

27 CSR No. 7778
28

29 Job No. 2610396
30

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1 A. My recollection is shaky. I want to say 10:22:43
2 shortly after joining Otto, I can recall Mason being 10:22:49
3 around at that time frame. And when it ended I'm not 10:22:53
4 sure, but that would have been maybe in the 10:22:56
5 past -- let me try to bookend this -- past -- this is 10:23:03
6 very hard because I don't remember. I believe as 10:23:07
7 shortly as a few, couple months ago, perhaps. And 10:23:13
8 this could also be found pretty readily. Mr. Feldman 10:23:17
9 was reporting to a facilities manager. 10:23:22

10 Q. Does Mr. Feldman still work for Uber or Otto? 10:23:26

11 A. Yes. 10:23:27

12 Q. What does he do now? 10:23:29

13 A. I understand he's working for a facilities 10:23:31
14 manager. 10:23:33

15 Q. When you say "facilities manager," what do 10:23:35
16 you mean by that? 10:23:36

17 A. I wish I knew better in detail, but I don't. 10:23:41
18 We have somebody on staff that I believe would be 10:23:44
19 called a facilities manager, perhaps manages what goes 10:23:48
20 on with buildings, facilities' needs, be it the need 10:23:55
21 for air-conditioning, a repair, something of that 10:23:59
22 nature. 10:23:59

23 Q. Where is Mr. Feldman located? 10:24:02

24 A. To my knowledge, he has a desk in our offices 10:24:07
25 in San Francisco. 10:24:09

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1	Q. Other than Mr. Feldman, who are you aware of	10:24:20
2	that most closely works with Mr. Levandowski on a	10:24:27
3	day-to-day basis?	10:24:29
4	A. On a day-to-day basis, the only other	10:24:32
5	employee I'm aware of that works closely with him I	10:24:35
6	would say is Eric Meyhofer.	10:24:44
7	Q. Mr. Meyhofer, how do you know him?	10:24:50
8	A. Eric is my boss.	10:24:52
9	Q. How long have yourself and Mr. Meyhofer known	10:24:59
10	each other?	10:25:00
11	A. I met Eric Meyhofer -- I don't remember when,	10:25:09
12	but I can tell you it was when he visited Tyto LiDAR	10:25:13
13	with Scott Boehmke, and they visited to evaluate our	10:25:20
14	products.	10:25:21
15	Q. And you said you didn't remember when this	10:25:26
16	meeting was.	10:25:30
17	Can you give it a year?	10:25:31
18	A. It was prior to acquisition by Otto, but a	10:25:40
19	significant time went by between our meeting and being	10:25:46
20	acquired by Otto. So I don't even want to hazard the	10:25:52
21	year, because it could be off.	10:25:55
22	Q. So there was a meeting between Mr. Meyhofer,	10:26:03
23	Mr. Boehmke and Tyto LiDAR; is that right?	10:26:08
24	A. That's right.	10:26:09
25	Q. And it was sometime before the acquisition of	10:26:12

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1	Tyto by Otto; correct?	10:26:15
2	A. Correct.	10:26:15
3	Q. Who else was at that meeting?	10:26:19
4	A. That would have included Brent Schwarz. I'm	10:26:26
5	not certain whether Mike Karasoff would have been at	10:26:30
6	that meeting as well.	10:26:32
7	Q. Anybody else?	10:26:32
8	A. I don't recall.	10:26:33
9	Q. Was Mr. Levandowski at that meeting?	10:26:37
10	A. Not that I recall.	10:26:38
11	Q. You're not sure, though?	10:26:41
12	A. I'm fairly sure that he was not. That would	10:26:45
13	have been awkward.	10:26:48
14	Q. You said, "That would have been awkward."	10:26:50
15	Why do you say that?	10:26:52
16	A. Well, he wasn't an employee of Tyto.	10:26:57
17	Q. Mr. Levandowski.	10:26:57
18	A. That's what I meant.	10:26:59
19	Q. So you're saying it would have been awkward	10:27:02
20	for Mr. Levandowski to be involved in a meeting	10:27:06
21	between Tyto and Uber because he wasn't involved in	10:27:10
22	Tyto; is that right?	10:27:12
23	A. It would be awkward because he was not an	10:27:14
24	employee, yes.	10:27:15
25	Q. So I see you changed words there a little	10:27:17

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1	bit --	10:27:17
2	A. I did.	10:27:19
3	Q. -- and I just want to clarify that.	10:27:20
4	Why did you change -- my question was about	10:27:23
5	whether he was involved, and you answered about	10:27:26
6	whether he was an employee.	10:27:27
7	Why did you do that?	10:27:28
8	A. Because I would need clarification on the	10:27:31
9	word "involved." We would occasionally have dinner,	10:27:38
10	chat, see how the business was going on a friendly	10:27:41
11	term.	10:27:42
12	Q. What is your understanding as to	10:27:43
13	Mr. Levandowski's involvement in Tyto LiDAR?	10:27:48
14	A. My understanding of his involvement with Tyto	10:27:53
15	LiDAR was he was providing us a place of work when we	10:27:58
16	were still Odin Wave, early -- when we were getting	10:28:02
17	started. He sourced contract employees. He was a	10:28:11
18	friend who would stop by occasionally for chats.	10:28:15
19	Q. Chats about what?	10:28:16
20	A. What we're working on, what would the next	10:28:21
21	product be if we finished the current product.	10:28:24
22	Q. Why were you chatting with Mr. Levandowski	10:28:26
23	about what you were working on at Tyto LiDAR?	10:28:29
24	A. I couldn't tell you -- if your question is	10:28:34
25	why that was appropriate or why that was something	10:28:41

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1	that was to discuss, the question came up, he would	10:28:45
2	ask, we would talk.	10:28:47
3	Q. Was there anyone else that you would have	10:28:50
4	these kind of chats with, that weren't employees,	10:28:53
5	about your work at Tyto?	10:28:58
6	A. Not that I recall.	10:29:02
7	Q. Did you ever raise to any of your fellow	10:29:05
8	employees at Tyto LiDAR, hey, why are we talking with	10:29:10
9	Mr. Levandowski about the work that we're doing?	10:29:14
10	A. No.	10:29:14
11	Q. Never came up?	10:29:16
12	A. Not to my recollection.	10:29:17
13	Q. You never asked anyone?	10:29:18
14	A. No.	10:29:18
15	Q. You didn't think it was odd that this person	10:29:21
16	who doesn't work for the company was talking about	10:29:23
17	your work with you?	10:29:24
18	A. No.	10:29:25
19	Q. Did you know that Mr. Levandowski was working	10:29:27
20	on LiDAR at Waymo at the time?	10:29:31
21	A. I knew he was working for Google at the time,	10:29:35
22	and I didn't know the details of what specifically he	10:29:39
23	was working on.	10:29:41
24	Q. Have you ever spoken with Mr. Levandowski	10:29:44
25	about [REDACTED]	10:29:51

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1 A. Yes. 10:29:51
2 Q. When? 10:29:52
3 A. This would be some date, I can't recall when, 10:30:01
4 at Tyto LiDAR. 10:30:05
5 Q. And what did you guys talk about? 10:30:12
6 A. We talked about our need to design our own 10:30:15
7 fiber laser in order to eliminate costs and lead time. 10:30:21
8 And he gave me what I would call a tech tutorial on 10:30:29
9 fiber lasers. 10:30:31
10 Q. What did he say? 10:30:35
11 A. I don't remember the words of our 10:30:37
12 conversation. 10:30:38
13 Q. Tell me everything you remember about that 10:30:40
14 conversation, please. 10:30:41
15 A. He -- trying to recall -- described a 10:30:53
16 schematic, a layout, an approach for [REDACTED] [REDACTED]
[REDACTED] generally how they work. Told me 10:31:03
18 to go find a YouTube video from a professor on lasers 10:31:09
19 in general. I believe he recommended some suppliers. 10:31:18
20 Q. Who are the suppliers? 10:31:20
21 A. I believe he recommended [REDACTED] [REDACTED]
[REDACTED] And I believe he recommended [REDACTED]. 10:31:41
23 Q. And [REDACTED] that's the same vendor used for 10:31:47
24 the fiber in the Spider design; right? 10:31:51
25 A. Yes. 10:31:51

1	Q. Sorry I interrupted.	10:31:55
2	Are you finished telling me everything that	10:31:57
3	you remember about that conversation?	10:31:58
4	MR. JAFFE: Can you get me a piece of paper?	10:32:07
5	MR. McCUALEY: (Hands document.)	10:32:15
6	THE WITNESS: I recall he was telling me to hurry	10:32:18
7	up and order the [REDACTED] because they were long	10:32:25
8	lead items. I think he suggested some [REDACTED] [REDACTED]	[REDACTED]
9	[REDACTED] I don't recall any more	10:32:46
10	than that.	10:32:48
11	BY MR. JAFFE:	10:32:48
12	Q. Thank you.	10:32:49
13	So we talked about that conversation, and you	10:32:53
14	said you didn't remember when it was. I just want to	10:32:56
15	see if we can bound that time with any more	10:32:59
16	specificity.	10:33:00
17	A. Ooh. I recall it occurred at our -- after we	10:33:09
18	moved out of Berkeley, so this was in San Leandro.	10:33:16
19	This would have been prior to my starting to develop	10:33:22
20	the fiber lasers, so it had to be relatively	10:33:25
21	shortly -- I would say -- this is all qualitative, I'm	10:33:32
22	sorry -- shortly after that move to San Leandro.	10:33:34
23	Q. All right. So based on those kind of	10:33:36
24	considerations, what approximate timeline did you guys	10:33:42

1	move to San Leandro?	10:33:43
2	A. There's a lot of years between here and	10:33:45
3	there. It's tractable [sic] from other information	10:33:52
4	sources, but I don't have it in my head right now.	10:33:55
5	Q. 2015?	10:33:56
6	A. Could be. I don't know.	10:33:57
7	Q. So sitting here today, you can't give me any	10:34:00
8	more specificity as to the time of that conversation?	10:34:03
9	A. I cannot.	10:34:04
10	Q. I'm going to hand you this.	10:34:06
11	MR. JAFFE: And we're going to mark it as -- now	10:34:09
12	I've lost what exhibit we're at, so I'm just going to	10:34:14
13	say 150 so we don't run over another exhibit.	
14	(Plaintiff's Exhibit 150 was marked.)	
15	BY MR. JAFFE:	
16	Q. Can you please draw the schematic that	10:34:17
17	Mr. Levandowski provided to you during that	10:34:20
18	conversation. And here I'll hand you my pen.	10:34:25
19	A. I can do my best.	10:34:26
20	So I want to state, as I'm going to attempt	10:34:56
21	to do this for you, that there is a very real risk	10:35:00
22	that I'm going to take information that I know now,	10:35:03
23	after having built the fiber laser, and get that	10:35:06
24	somewhat accidentally contaminated into a vague	10:35:13
25	recollection of what schematic he gave me.	10:35:16

1 Q. I just want your best recollection of the 10:35:18
2 schematic that he gave you. 10:35:19
3 A. I understand that.
4 Q. That's all I'm asking for. 10:35:21
5 A. I understand that. 10:35:23
6 (Witness draws diagram.) 10:35:31
7 (Pause in proceedings.)
8 MR. KIM: Just going to object on form 10:35:39
9 grounds here, for the record. 10:35:41
10 THE WITNESS: Okay. I think this is the best 10:38:17
11 of my recollection. I put a note on here there's [REDACTED] [REDACTED]
[REDACTED] I don't know what the order was in his 10:38:24
13 recommendation. 10:38:25
14 BY MR. JAFFE:
15 Q. Can I take a look at it? 10:38:31
16 A. Yes. And I've drawn [REDACTED]. And I 10:38:35
17 don't know if he recommended [REDACTED]. And I can 10:38:37
18 explain any abbreviations. 10:38:39
19 Q. Sure. 10:38:40
20 So I'm just going -- just want to talk a 10:38:45
21 couple things here. 10:38:46
22 So [REDACTED] what does that stand for? 10:38:49
23 A. [REDACTED]. 10:38:52
24 Q. Okay. And then [REDACTED] here on Exhibit 150, 10:38:54
25 what does that stand for? 10:38:56

1 A. [REDACTED] 10:39:04
2 Q. And in terms -- I again want to talk about 10:39:07
3 the timing of this briefly. 10:39:09
4 Do you know before -- whether it was before 10:39:12
5 or after 2011? 10:39:14
6 A. I don't know. 10:39:24
7 Q. So did you talk about [REDACTED] [REDACTED]
[REDACTED] at this time? 10:39:40
9 A. I don't recall. 10:39:41
10 Q. Did you talk about [REDACTED] 10:39:44
11 at this time? 10:39:45
12 A. Yes. 10:39:46
13 Q. What did you talk about? 10:39:48
14 A. We talked about the need to optimize [REDACTED] [REDACTED]
[REDACTED] and that that could be done 10:39:58
16 through an experimental approach. 10:40:01
17 Q. What was the experimental approach that 10:40:03
18 Mr. Levandowski told you about? 10:40:05
19 A. He didn't give a lot of detail. He called it 10:40:09
20 a [REDACTED] I can't remember how he called it. But as 10:40:15
21 he described it, [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 10:40:34

1	Q. Did you and Mr. Levandowski discuss the	10:40:39
2	[REDACTED]	[REDACTED]
4	A. Possibly, yeah. I think there -- he may have	10:40:54
5	described the relationship between -- almost the	10:40:58
6	equivalence. [REDACTED]	[REDACTED]
7	[REDACTED]	[REDACTED]
8	[REDACTED]	10:41:07
9	Q. All right. After you had this conversation	10:41:16
10	with Mr. Levandowski, did you build the fiber laser	10:41:22
11	that he described?	10:41:23
12	A. Yeah.	10:41:23
13	Q. And when you had this conversation with him,	10:41:27
14	did you ask him whether he was allowed to reveal this	10:41:29
15	information to you?	10:41:31
16	A. No.	10:41:31
17	Q. Why not?	10:41:35
18	A. I can't recall what I was feeling or thinking	10:41:37
19	at the time, but this looks like general information	10:41:41
20	to me.	10:41:42
21	Q. So you didn't think, when he provided a	10:41:44
22	schematic on how to build a fiber laser, that this	10:41:48
23	could have been confidential information of Google?	10:41:52
24	A. I wouldn't say so.	10:41:54
25	Q. That didn't cross your mind?	10:41:56

1	A. I don't recall what crossed my mind.	10:41:57
2	Q. So you're not denying that it could have	10:42:00
3	happened?	10:42:02
4	A. It didn't happen that I recall --	10:42:04
5	Q. Did you --	
6	A. -- but it's not impossible.	10:42:07
7	Q. Sorry. I didn't mean to interrupt.	10:42:09
8	Did you ever discuss with anyone any question	10:42:11
9	in your mind as to whether Mr. Levandowski was allowed	10:42:14
10	to reveal this information to you?	10:42:17
11	A. No.	10:42:17
12	Q. Didn't cross your mind?	10:42:20
13	A. There's enough prior art. As I began to	10:42:26
14	study this online, it looked pretty plain vanilla to	10:42:32
15	me.	10:42:33
16	Q. All right. So we talk about [REDACTED]	[REDACTED]
[REDACTED]	[REDACTED] and you built this fiber laser.	10:42:38
18	Is this the resulting design -- or the basis	10:42:41
19	for the design that is in the fiber laser in Spider?	10:42:45
20	MR. KIM: Objection; form.	10:42:48
21	THE WITNESS: I would be willing to say that this	10:42:53
22	was a starting point for my development of the fiber	10:42:57
23	laser that did end up in the Owl sensor and later the	10:43:03
24	Spider.	10:43:04
25	BY MR. JAFFE:	10:43:04

1 Q. Right.
2 So, for example, the fiber laser in Spider, 10:43:08
3 [REDACTED] right? 10:43:10
4 A. Yes. 10:43:10
5 Q. And the [REDACTED] [REDACTED]
6 [REDACTED] right? 10:43:16
7 A. Right. 10:43:16
8 Q. And it's [REDACTED] 10:43:20
9 right? 10:43:20
10 A. Right. 10:43:20
11 Q. And all those elements are described here in 10:43:23
12 Exhibit 150, the drawing that you described; right? 10:43:26
13 A. Right. 10:43:26
14 Q. And you determined [REDACTED] [REDACTED]
15 [REDACTED] based on 10:43:39
16 Mr. Levandowski's kind of guidance with you on the 10:43:44
17 experimental approach to take; right? 10:43:46
18 MR. KIM: Objection; form. 10:43:48
19 THE WITNESS: I would say that his guidance on a 10:43:57
20 [REDACTED] put me on the right direction to 10:44:01
21 develop [REDACTED] for this, yes. 10:44:05
22 BY MR. JAFFE: 10:44:05
23 Q. So we talked about [REDACTED] 10:44:08
24 What was the next conversation that you had 10:44:10
25 with Mr. Levandowski about LiDAR? 10:44:18

1	a sensor that was capable of long-range performance	10:50:31
2	and that they would need a sensor for long-range	10:50:35
3	viewing on an autonomous vehicle.	10:50:40
4	And so our angle with Uber at the time was we	10:50:44
5	think we can build such a sensor, but we're not	10:50:47
6	working on it right now. Our company is open for	10:50:51
7	acquisition.	10:50:55
8	Q. So the sensor that you were coming up with,	10:51:00
9	that was going to be a bistatic design; right?	10:51:03
10	A. Yes.	10:51:05
11	Q. At some point, Spider came about and	10:51:12
12	transformed it to a monostatic design; right?	10:51:15
13	A. True.	10:51:17
14	Q. Do you know who was responsible for the	10:51:19
15	change from what you were coming up with, which was a	10:51:22
16	bistatic design, to the monostatic design in Spider?	10:51:26
17	A. I don't recall who among the team was	10:51:34
18	involved in our conversations first to move away from	10:51:39
19	supplemental design to one design that would cover all	10:51:44
20	the way from directly in front of the vehicle out to	10:51:47
21	long range. But that was a decision that was made	10:51:50
22	that pretty much negated the proposal I had made of	10:51:56
23	using a tight-packed purely long-range sensor.	10:52:00
24	Q. So you shifted into the passive voice there.	10:52:05
25	You're talking about -- who is making these	10:52:07

1	decisions?	10:52:08
2	A. Exactly. I'm trying to recall. I don't	10:52:10
3	know, of all the people that were involved, who was in	10:52:14
4	those conversations. So it would include me. It	10:52:17
5	would include most likely Anthony Levandowski. I	10:52:23
6	believe it would also include Daniel Gruver. And I'm	10:52:28
7	not sure if there's anyone else.	10:52:30
8	Q. And do you know, in the context of those	10:52:35
9	communications, who just said, Hey, James, your design	10:52:44
10	looks great, but we're going to go with the monostatic	10:52:46
11	design and we think it's better?	10:52:50
12	MR. KIM: Objection; form.	10:52:50
13	THE WITNESS: The monostatic design that uses one	10:52:56
14	lens for transmit and receive, I don't know who came	10:52:59
15	up with that. At some point I saw it, seemed okay to	10:53:05
16	me, it seemed compact, let's use it.	10:53:09
17	BY MR. JAFFE:	10:53:09
18	Q. So you don't know -- you have no information	10:53:12
19	of who came up with the monostatic design in Spider?	10:53:15
20	A. True.	10:53:16
21	Q. Okay. So we were still -- going back to our	10:53:25
22	chron of conversations with Mr. Levandowski, when is	10:53:28
23	the next conversation that you had with	10:53:31
24	Mr. Levandowski about LiDAR that you can recall?	10:53:34
25	A. It's very hard for me to recall specific	10:53:43

1 conversations, especially in sequence. At this point, 10:53:47
2 I report to Anthony Levandowski. 10:53:50
3 Q. And just for purposes of the record, when 10:53:52
4 you're talking about "this point," what date are you 10:53:54
5 talking about? 10:53:55
6 A. I'm talking about immediately following 10:53:56
7 Tyto's acquisition by Otto -- or I should say Otto's 10:54:03
8 acquisition of Tyto. We joined -- at that time, I 10:54:08
9 reported to Anthony Levandowski. There would be 10:54:12
10 regular staff meetings. Since my team is working on 10:54:19
11 LiDAR, LiDAR would definitely come up in conversations 10:54:22
12 with him, at that point, on a probably fairly routine 10:54:25
13 basis, like weekly basis. 10:54:28
14 Q. And what did you and Mr. Levandowski discuss? 10:54:31
15 A. Progress, approach, schedule or timing, 10:54:39
16 volumes. 10:54:41
17 Q. Can you tell me any more specifics about the 10:54:44
18 routine and regular conversations you were having with 10:54:48
19 Mr. Levandowski about LiDAR? 10:54:49
20 A. He would ask about what the design was 10:54:56
21 looking like, how we were approaching it. Beyond 10:55:00
22 that, I don't recall specifics of our conversations. 10:55:03
23 Q. So sitting here today, in this time period 10:55:06
24 that you're talking about, after you joined Otto in 10:55:10
25 May of 2016, you would have regular conversations with 10:55:15

1 Mr. Levandowski about LiDAR, but you can't recall any 10:55:18
2 specifics of those conversations; is that fair? 10:55:21
3 A. That's fair to say I cannot recall beyond the 10:55:26
4 details I already told you. 10:55:28
5 Q. I see. 10:55:29
6 When is the next -- moving forward in time 10:55:34
7 here, when is the next substantive conversation with 10:55:38
8 Mr. Levandowski about LiDAR that you recall? 10:55:40
9 A. I don't know. 10:55:56
10 Q. You don't know? 10:55:57
11 A. I don't know. 10:55:57
12 Q. I'm not trying to do a memory test here. If 10:56:02
13 there's just too many conversations for you to recall, 10:56:05
14 that's fine, and you can just tell me that. But 10:56:08
15 otherwise I'm just going to keep asking. 10:56:10
16 MR. KIM: Objection; form. 10:56:10
17 THE WITNESS: Most of our conversations, that is 10:56:21
18 between me and Anthony Levandowski, were not 10:56:24
19 substantive in LiDAR design per se. So I'm having a 10:56:30
20 hard time remembering further conversations or 10:56:35
21 specifics. 10:56:35
22 Most of the time, he wanted to know where 10:56:38
23 we were in our progress, and he may have asked 10:56:41
24 what the design was shaping up like. 10:56:44
25 I do recall one more. 10:56:49

1 He was visiting Uber. He got me on the phone 10:56:56
2 and was starting to describe using eight fiber 10:57:02
3 lasers -- that's right -- eight fiber lasers, 10:57:08
4 splitting their outputs to multiply the number of 10:57:12
5 channels and then routing a fiber from each fiber 10:57:17
6 laser into a number of optical cavities. 10:57:24

7 There was also, at that time frame, a 10:57:26
8 document published or shared with the team. I think 10:57:31
9 that came from Scott Boehmke. So this would be 10:57:38
10 substantive in terms of shaping up what Spider would 10:57:43
11 eventually become. 10:57:44

12 BY MR. JAFFE: 10:57:44

13 Q. And you said Mr. Levandowski called you from 10:57:48
14 Uber in Pittsburgh; is that right? 10:57:53

15 A. My understanding he was either at Uber or in 10:57:55
16 transit to or from Uber in Pittsburgh. 10:57:58

17 Q. Approximately what time period was this? 10:58:01

18 A. This would be relatively early in the 10:58:04
19 development of the Spider. Beyond that, I would defer 10:58:08
20 to e-mails. I don't remember. 10:58:10

21 Q. When you say you would "defer to e-mails," 10:58:12
22 are there e-mails about this conversation? 10:58:15

23 A. There were e-mails -- I should say there was 10:58:19
24 an e-mail with a document that was published that 10:58:24
25 contained the substance of what he was describing. 10:58:27

1	Q. What was the name of that document?	10:58:29
2	A. I think it had the name like LiDAR Thoughts.	10:58:36
3	Q. And that was authored by Mr. Levandowski?	10:58:39
4	MR. KIM: Objection; form.	10:58:39
5	THE WITNESS: I don't know that Anthony authored	10:58:43
6	that or if Scott authored that.	10:58:46
7	BY MR. JAFFE:	10:58:46
8	Q. Mr. Levandowski had design input into what --	10:58:49
9	the LiDAR described in that document, though; is that	10:58:53
10	fair?	10:58:54
11	MR. KIM: Objection; form.	10:58:54
12	THE WITNESS: That's a good question. He	10:58:58
13	described it to me, but I don't know whether he was	10:59:02
14	describing his idea or Scott's idea. I don't know.	10:59:06
15	BY MR. JAFFE:	10:59:06
16	Q. So just to back up, Mr. Levandowski called	10:59:14
17	you and provided some thoughts on how to do the fiber	10:59:20
18	laser design in Spider. And he was describing	10:59:23
19	something that was in a document called LiDAR	10:59:25
20	Thoughts; is that fair?	10:59:27
21	A. He was describing something that was later	10:59:30
22	published in an e-mail with LiDAR Thoughts.	10:59:34
23	Q. And at this time, Otto was an independent	10:59:41
24	company; right?	10:59:43
25	A. Yes.	10:59:43

1	Q. Why was Mr. Levandowski at Uber?	10:59:46
2	A. As I understood it, we were considering	10:59:52
3	selling our LiDAR sensors to Uber.	10:59:56
4	Q. When you say "As I understood it," what was	10:59:59
5	the basis for that understanding?	11:00:01
6	MR. KIM: Just caution you not to reveal	11:00:04
7	privileged communications with lawyers. If you can	11:00:07
8	answer it without doing that, you can do so.	11:00:10
9	THE WITNESS: Um-hum.	11:00:11
10	I don't recall the exact timing and	11:00:15
11	sequencing. At some point, engineers from Uber	11:00:23
12	Pittsburgh visited our office. And I have a vague	11:00:33
13	recollection Anthony telling us to be helpful, to	11:00:41
14	share information freely. It seemed almost like a	11:00:48
15	partnership. Around the time, Anthony put an	11:00:56
16	e-mail to the entire company saying we were going	11:00:59
17	to be working with them, providing sensor to them,	11:01:03
18	possibly involving autonomous software as well.	11:01:09
19	MR. JAFFE: Counsel, I don't think that e-mail has	11:01:12
20	been produced, and we ask that it be produced	11:01:14
21	immediately.	11:01:16
22	MR. KIM: I don't know which e-mail that	11:01:17
23	specifically refers to. I believe we produced a bunch	11:01:21
24	of e-mails that are similar to that description, but	11:01:24
25	we can confirm.	11:01:26

1	A. This would be distinct from status and	11:05:08
2	updates.	11:05:09
3	Q. Okay. I just want that to be clear.	11:05:10
4	Okay. When you joined Tyto, when did you	11:05:14
5	first hear that Mr. Levandowski would be your boss on	11:05:19
6	the LiDAR team?	11:05:21
7	A. I believe my offer letter for joining Otto	11:05:28
8	would have indicated that he would be my manager, I	11:05:33
9	believe.	11:05:33
10	Q. So Mr. Levandowski decided that you	11:05:41
11	were -- that he was -- you were going -- excuse me --	11:05:44
12	that he was going to be your boss on the LiDAR team	11:05:47
13	when you joined Otto; right?	11:05:48
14	A. I presumed that, yes.	11:05:51
15	Q. Do you think the LiDAR team needed	11:05:56
16	Mr. Levandowski to accomplish its goals?	11:06:01
17	MR. KIM: Objection; form.	11:06:01
18	THE WITNESS: Honestly, no.	11:06:08
19	BY MR. JAFFE:	11:06:08
20	Q. Why not?	11:06:09
21	A. We have a team that probably could have come	11:06:13
22	up with a number of different LiDAR sensors without	11:06:17
23	his input.	11:06:18
24	Q. But that's not what happened; right?	11:06:20
25	A. That's not what happened.	11:06:22

1	Q. So when was the first time you worked with	11:06:32
2	Max Levandowski on LiDAR?	11:06:35
3	A. That would be immediately following my	11:06:38
4	joining Otto.	11:06:39
5	Q. And what is your working relationship with	11:06:43
6	Max Levandowski?	11:06:45
7	A. He reports to me.	11:06:47
8	Q. He reports to you. I see.	11:06:49
9	So, actually, let's go back in time to when	11:06:56
10	you first joined Otto.	11:06:58
11	And you're having regular interactions with	11:07:00
12	Mr. Levandowski; right?	11:07:02
13	A. Um-hum.	11:07:03
14	Q. What devices are you aware of him using at	11:07:06
15	that time in terms of computers?	11:07:09
16	A. I believe he had a laptop, probably a	11:07:12
17	Macintosh.	11:07:14
18	Q. Is that his personal laptop?	11:07:17
19	MR. KIM: Objection; form.	11:07:17
20	THE WITNESS: I don't know.	11:07:19
21	BY MR. JAFFE:	11:07:19
22	Q. What about a phone? Was he using a phone?	11:07:22
23	A. Sure. I don't know if he had one phone,	11:07:24
24	multiple phones. I didn't really pay attention, but	11:07:27
25	I'm sure he had a phone.	11:07:28

1	Q. How often did Mr. Levandowski bring his	11:07:32
2	personal laptop to work with him?	11:07:35
3	MR. KIM: Objection; form.	11:07:35
4	THE WITNESS: I couldn't possibly know.	11:07:37
5	BY MR. JAFFE:	11:07:37
6	Q. Every day?	11:07:39
7	MR. KIM: Objection; form.	11:07:39
8	THE WITNESS: The reason I couldn't possibly know	11:07:42
9	is I don't know whether the laptop he may have carried	11:07:45
10	was his personal laptop or the work laptop.	11:07:48
11	BY MR. JAFFE:	11:07:48
12	Q. I see. All right. So let's just talk about	11:07:51
13	the one laptop that you know about.	11:07:53
14	How often did he bring that laptop to work	11:07:55
15	with him?	11:07:56
16	MR. KIM: Objection; form.	11:07:56
17	THE WITNESS: I don't know. I have no idea.	11:08:02
18	BY MR. JAFFE:	11:08:02
19	Q. You saw him at work with the personal laptop;	11:08:06
20	right?	11:08:06
21	A. I'm sure I've seen him at work with a laptop.	11:08:10
22	Q. And that was a regular occurrence; right?	11:08:12
23	MR. KIM: Objection; form.	11:08:14
24	THE WITNESS: I hardly paid attention to how often	11:08:18
25	he was carrying a laptop.	11:08:20

1	BY MR. JAFFE:	11:08:20
2	Q. I understand you're saying that you hardly	11:08:23
3	pay attention to this. The judge specifically asked	11:08:25
4	to find out this information, and that's the reason	11:08:27
5	I'm asking this question. I just want that to be	11:08:30
6	clear.	11:08:31
7	How often -- so let me just pause there,	11:08:34
8	okay, and I'm going to ask my question again.	11:08:36
9	How often did you see Anthony Levandowski	11:08:38
10	with his Macintosh laptop at Otto?	11:08:42
11	MR. KIM: Objection; form.	11:08:42
12	THE WITNESS: I don't recall how often.	11:08:48
13	BY MR. JAFFE:	11:08:48
14	Q. Every day?	11:08:53
15	MR. KIM: Objection; form.	11:08:53
16	THE WITNESS: Not necessarily.	11:08:55
17	BY MR. JAFFE:	11:08:55
18	Q. Four, five days a week; is that fair?	11:08:58
19	A. I don't know.	11:09:03
20	Q. You're not willing to tell me any sort of	11:09:06
21	numbers?	11:09:07
22	MR. KIM: Objection; form.	11:09:07
23	THE WITNESS: I can't give you any number for how	11:09:12
24	often I can recall seeing him carrying a laptop. And	11:09:16
25	I would also mention he spent a lot of time traveling	11:09:20

1	to the Pittsburgh office, and I would have no idea how	11:09:23
2	often he carried a laptop for that as well.	11:09:26
3	BY MR. JAFFE:	11:09:26
4	Q. Fair.	11:09:27
5	I'm not trying to ask you -- I'm only asking	11:09:28
6	for your understanding based on your interactions with	11:09:31
7	him.	11:09:32
8	Understand?	11:09:32
9	A. Understand.	11:09:33
10	Q. Would you agree that you probably saw	11:09:36
11	Mr. Levandowski with his laptop three days a week,	11:09:41
12	approximately?	11:09:42
13	MR. KIM: Objection to form. Same objection.	11:09:49
14	THE WITNESS: I really don't recall. I really do	11:09:51
15	not recall.	11:09:52
16	BY MR. JAFFE:	11:09:52
17	Q. All right. Let me come at this the other	11:09:55
18	way.	11:09:56
19	You saw him at least once with the laptop;	11:09:58
20	right?	
21	A. Sure.	11:09:59
22	Q. At least, let's say, 50 times?	11:10:01
23	MR. KIM: Objection to form.	11:10:02
24	THE WITNESS: At least some number of times. I	11:10:06
25	don't know.	11:10:06

1 BY MR. JAFFE:

2 Q. Okay. You're aggressively resisting giving 11:10:09
3 any sort of number. And the judge asked for this, so 11:10:12
4 I'm just going to press on this a little bit longer? 11:10:13
5 Okay?

6 MR. KIM: Objection to form. 11:10:17

7 BY MR. JAFFE: 11:10:17

8 Q. More than 30 times? 11:10:20

9 A. Possibly. 11:10:21

10 Q. Would you dispute if someone said to the 11:10:22
11 court that he -- you saw his laptop at least 30 times 11:10:27
12 when you were working at Otto before the Uber
13 acquisition?

14 MR. KIM: Objection to form. 11:10:30

15 THE WITNESS: If someone claimed to see him with a 11:10:32
16 laptop 30 times, I would not object to that. 11:10:34

17 BY MR. JAFFE: 11:10:34

18 Q. And just talking about regularly, if we were 11:10:38
19 going to put an approximate amount, would you say 11:10:41
20 approximately two to four times a week you saw him 11:10:44
21 with a laptop at Otto? Is that fair? 11:10:46

22 MR. KIM: Objection; form. 11:10:46

23 THE WITNESS: I don't know if kept his laptop with 11:10:50
24 him everywhere he went in the office, so -- 11:10:53

25 BY MR. JAFFE:

1	Q. I'm just asking about what you saw with your	11:10:56
2	own eyes.	11:10:57
3	A. So I would say a few times a week when he was	11:11:04
4	spending that week in the office.	11:11:07
5	Q. Fair.	11:11:08
6	So just to clean that up for purposes of the	11:11:12
7	record, your testimony, based on your personal	11:11:17
8	knowledge, is you approximately saw Mr. Levandowski	11:11:21
9	when he was in San Francisco with his Macintosh laptop	11:11:27
10	a few times a week --	11:11:29
11	MR. KIM: Objection; form.	11:11:31
12	BY MR. JAFFE:	11:11:31
13	Q. -- is that fair?	11:11:33
14	MR. KIM: Objection; form.	11:11:34
15	THE WITNESS: It's fair as long as we emphasize	11:11:37
16	approximately.	11:11:39
17	BY MR. JAFFE:	11:11:39
18	Q. Okay. All right. Did you ever get e-mails	11:11:45
19	from Mr. Levandowski while he was working from home?	11:11:51
20	A. I don't know.	11:11:54
21	Q. Why don't you know?	11:11:57
22	A. I would occasionally get e-mails from Anthony	11:12:00
23	Levandowski, but I don't know how to tell you where he	11:12:03
24	was when he sent those e-mails.	11:12:05
25	Q. So there's no instance where you're sitting	11:12:09

1	in the office and you look around and he's not there	11:12:11
2	and he hasn't been there all day and he's sending	11:12:16
3	e-mails? That's never happened?	11:12:19
4	A. Incorrect.	11:12:19
5	Q. So can you please explain then.	11:12:21
6	A. He travels a lot. So I quite likely got	11:12:25
7	e-mails from him when I didn't see him in the office.	11:12:30
8	Q. So you don't know where he is a lot of the	11:12:32
9	time; is that fair?	11:12:33
10	A. That's fair.	11:12:34
11	Q. So you got e-mails from Mr. Levandowski when	11:12:37
12	you were working at Otto, but he wasn't sitting with	11:12:39
13	you in the office; right?	11:12:40
14	A. I believe that's true, yes.	11:12:45
15	Q. So he wasn't in the office, you don't know	11:12:47
16	where he is, but he's e-mailing you about Otto; is	11:12:50
17	that fair?	11:12:52
18	A. That's fair.	11:12:53
19	Q. And was that something that happened on a	11:12:58
20	regular basis?	11:12:59
21	MR. KIM: Objection; form.	11:12:59
22	THE WITNESS: I think that's fair.	11:13:04
23	BY MR. JAFFE:	11:13:04
24	Q. So I want to talk about Fuji for a second	11:13:11
25	here.	11:13:13

1	In the Fuji design -- and we'll just go	11:13:17
2	cavity by cavity.	11:13:18
3	But for the mid-range cavity, there are three	11:13:20
4	transmit boards; right?	11:13:21
5	A. Right.	11:13:23
6	Q. And in the mid-range cavity, there are three	11:13:27
7	transmit boards and they are pointed -- and they're	11:13:30
8	parallel to one another; right?	11:13:31
9	A. Right.	11:13:31
10	Q. The transmit lens for the mid-range cavity is	11:13:37
11	less in width than the width of the transmit boards;	11:13:43
12	right?	11:13:44
13	MR. KIM: Objection; form.	11:13:44
14	THE WITNESS: Could you clarify. I'm confused	11:13:50
15	which lens you're referring to.	11:13:52
16	BY MR. JAFFE:	11:13:52
17	Q. Yes. Let me just mark something and make	11:13:56
18	this easier.	11:13:57
19	MR. JAFFE: And we'll have this be 151.	11:14:04
20	(Plaintiff's Exhibit 151 was marked.)	
21	MR. KIM: At some point -- we've been going for I	11:14:10
22	think over an hour -- if we can take a break. You can	11:14:12
23	ask your line of questions. I'm just saying at a	11:14:15
24	convenient time.	11:14:16
25	MR. JAFFE: Sure.	11:14:16

1 [REDACTED] 11:16:25
2 BY MR. JAFFE: 11:16:25
3 Q. What do you mean, "necessarily"? 11:16:26
4 A. Any time you have a lens placed in 11:16:32
5 relationship to the source of light, the lateral 11:16:38
6 resolution -- wrong word -- the lateral relationship 11:16:42
7 between a light source and a lens will dictate the 11:16:47
8 exit angle of the light coming out of that lens. 11:16:50
9 So if you want the light to go straight, you 11:16:54
10 have to carefully place the FAC lens, or fast-axis 11:16:59
11 collimation lens, in a position that will cause the 11:17:04
12 light to exit perhaps parallel to the board, if you 11:17:07
13 want that. 11:17:08
14 Q. So in the Fuji design -- and we'll call it 11:17:11
15 the FAC lens for the benefit of the court reporter 11:17:13
16 here -- [REDACTED] [REDACTED]
[REDACTED]
[REDACTED] is that fair? 11:17:26
19 MR. KIM: Objection; form. 11:17:26
20 THE WITNESS: Maybe I don't like the word [REDACTED] [REDACTED]
[REDACTED] And 11:17:38
22 so to clarify, the FAC lens precollimates the light 11:17:44
23 [REDACTED] 11:17:47
24 BY MR. JAFFE: 11:17:47
25 Q. [REDACTED] 11:17:49

1 [REDACTED] right? 11:17:50
2 MR. KIM: Objection; form. 11:17:50
3 BY MR. JAFFE: 11:17:50
4 Q. That's all I mean by [REDACTED] 11:17:54
5 MR. KIM: Objection; form. 11:17:54
6 THE WITNESS: On two of our laser boards, the 11:17:59
7 [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 11:18:11
10 BY MR. JAFFE: 11:18:11
11 Q. Okay. So I don't have real-time, so I'm 11:18:18
12 going to try and just repeat back to make sure I 11:18:21
13 understand what you said. 11:18:22
14 The fast-axis collimation -- [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] true? 11:18:42
18 MR. KIM: Objection; form. 11:18:42
19 THE WITNESS: True as long as we clarify 11:18:48
20 horizontal is horizontal in the drawing. 11:18:51
21 BY MR. JAFFE: 11:18:51
22 Q. So if anyone testified or said that there's 11:18:57
23 [REDACTED] that would 11:19:01
24 be wrong; right? 11:19:02
25 MR. KIM: Objection; form. 11:19:02

1 THE WITNESS: Not necessarily. The word 11:19:05
2 [REDACTED] in LiDAR often means [REDACTED]
3 [REDACTED] 11:19:13
4 BY MR. JAFFE: 11:19:13
5 Q. I see. 11:19:13
6 So it's just kind of -- if they said there's 11:19:18
7 [REDACTED] they could be right, but they could be 11:19:21
8 wrong? 11:19:21
9 MR. KIM: Objection; form. 11:19:21
10 THE WITNESS: Could. 11:19:23
11 BY MR. JAFFE: 11:19:23
12 Q. And if someone said [REDACTED]
13 [REDACTED]
14 [REDACTED] right? 11:19:32
15 MR. KIM: Objection; form. 11:19:32
16 THE WITNESS: Too many words at once. Could you 11:19:36
17 repeat your last question. 11:19:38
18 MR. JAFFE: Why don't we just have the court 11:19:47
19 reporter repeat it.
20 (Record read by reporter as follows:
21 "Question: And if someone said it's
22 [REDACTED]
[REDACTED]
[REDACTED] right?"") 11:19:47
25 MR. KIM: Objection; form. 11:19:47

1 THE WITNESS: If they say it's [REDACTED] yes, they 11:19:52
2 are not necessarily denying the fact that [REDACTED]
[REDACTED]. 11:19:57

4 BY MR. JAFFE: 11:19:57

5 Q. Sorry. There was a missing word there. 11:19:59

6 If they say it's not [REDACTED]-- 11:20:01

7 A. Oh.

8 Q. -- they're not denying that it [REDACTED]
[REDACTED] 11:20:08

10 true? 11:20:08

11 MR. KIM: Objection; form. 11:20:08

12 THE WITNESS: If I were to say it's not [REDACTED] 11:20:18

13 I would not be denying that [REDACTED] I 11:20:21

14 can't tell you what they would say. 11:20:22

15 MR. JAFFE: Okay. Why don't we take our first 11:20:27

16 break. 11:20:28

17 THE VIDEOGRAPHER: We are off the record at 11:20 11:20:31

18 a.m. 11:20:31

19 (Recess taken.) 11:20:31

20 THE VIDEOGRAPHER: We're back on the record at 11:33:47

21 11:33 a.m. 11:33:49

22 BY MR. JAFFE: 11:33:49

23 Q. Welcome back. 11:34:13

24 A. Thank you. 11:34:14

25 Q. Last Thursday it was reported in the press 11:34:19

1 that Mr. Levandowski was demoting himself in some way. 11:34:26
2 Are you familiar with that? 11:34:27
3 A. I'm familiar with the announcement that his 11:34:31
4 position was changing. I only take issue with your 11:34:37
5 comment -- or your phrase that says he was demoting 11:34:40
6 himself. I don't know who decided his position should 11:34:45
7 change. 11:34:45
8 Q. I see. 11:34:45
9 So you don't know who actually decided that 11:34:49
10 his position should change? 11:34:51
11 A. Correct. 11:34:51
12 Q. And do you take issue with the idea that he 11:34:54
13 was demoted in some way? 11:34:56
14 A. Not necessarily. 11:34:58
15 Q. Okay. So if I call it his demotion, that's a 11:35:03
16 fair statement? 11:35:03
17 A. I won't argue with that. 11:35:05
18 Q. So how did you find out about 11:35:09
19 Mr. Levandowski's demotion? 11:35:12
20 A. I received an e-mail. I believe the whole 11:35:16
21 company received an e-mail describing that change. 11:35:21
22 I want to say Anthony sent the e-mail, but 11:35:25
23 I'm not 100 percent positive on that. 11:35:28
24 ██████████ 11:35:33
25 ██████████ 11:35:36

1	working with Mr. Levandowski before last Thursday; is	11:36:52
2	that fair?	11:36:53
3	A. That seems -- yeah, that's a true statement.	11:36:58
4	Q. Are you aware of anyone else receiving	11:37:00
5	special instructions about what they could and	11:37:02
6	couldn't do in working with Mr. Levandowski before	11:37:05
7	last Thursday?	11:37:06
8	MR. KIM: Objection; form.	11:37:06
9	THE WITNESS: I'm not aware of anything like that.	11:37:10
10	BY MR. JAFFE:	11:37:10
11	Q. So before last Thursday Mr. -- as far as you	11:37:14
12	know, Mr. Levandowski was free to provide input into	11:37:18
13	all parts of the self-driving project, including LiDAR	11:37:20
14	and other parts; right?	11:37:24
15	MR. KIM: Objection; form.	11:37:24
16	THE WITNESS: That's my understanding.	11:37:26
17	BY MR. JAFFE:	11:37:26
18	Q. And today as of right now, he's free to	11:37:32
19	provide input into all parts of the self-driving	11:37:36
20	project except for LiDAR?	11:37:38
21	MR. KIM: Objection; form.	11:37:38
22	THE WITNESS: I don't recall if there was any	11:37:45
23	other restrictions, but definitely LiDAR was mentioned	11:37:48
24	specifically.	11:37:52
25	BY MR. JAFFE:	11:37:52

1 Q. You don't recall whether there were any other 11:37:54
2 restrictions in the e-mail? 11:37:56

3 A. In the e-mail, correct. 11:37:57

4 Q. I see. Okay. So let me try this again. 11:38:00

5 So apart from the restrictions that are 11:38:02

6 stated in the e-mail, you're not -- today you're not 11:38:04

7 aware of any other limitations on Mr. Levandowski's 11:38:08

8 input into the self-driving project? 11:38:11

9 A. Correct, I'm not aware of any such additional 11:38:13

10 limitations. 11:38:14

11 Q. [REDACTED] [REDACTED]

[REDACTED] 11:38:20

13 MR. KIM: Objection; form. 11:38:22

14 THE WITNESS: [REDACTED] 11:38:23

15 BY MR. JAFFE: 11:38:23

16 Q. [REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED] 11:38:32

19 MR. KIM: Objection; form. 11:38:36

20 THE WITNESS: [REDACTED] 11:38:38

21 BY MR. JAFFE: 11:38:38

22 Q. [REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED] [REDACTED] 11:38:47

1 MR. KIM: Objection; form. 11:38:48
2 BY MR. JAFFE: 11:38:48
3 Q. [REDACTED] [REDACTED]
[REDACTED] 11:38:54
5 MR. KIM: Objection; form. 11:38:55
6 THE WITNESS: [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 11:39:02
9 BY MR. JAFFE:
10 Q. [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED] 11:39:22
19 Just for the purposes of the record, can you 11:39:23
20 just explain what you mean by that for a lay audience. 11:39:26
21 A. So again, my understanding of how our 11:39:29
22 autonomous software works, is limited -- with that 11:39:34
23 preface, I would suggest my understanding of the 11:39:37
24 perception team is to take LiDAR and other sources of 11:39:42
25 data and determine what objects exist outside the 11:39:50

1 vehicle. 11:39:52

2 If you refer generically to a compute team, 11:39:58

3 there may be other aspects of software after or 11:40:01

4 downstream in the data path after perception that 11:40:05

5 would need to use data that the perception software 11:40:09

6 generates in order to determine the car's proper 11:40:15

7 driving course. 11:40:17

8 Q. So even today -- well, actually, let me back 11:40:22

9 up. 11:40:22

10 What is "perception" in this context? 11:40:25

11 A. In this context, my use of the word 11:40:29

12 "perception" would be software that takes sensored 11:40:36

13 data input from LiDAR, camera, radar, possibly 11:40:42

14 inertial measurement sensors, wheel sensors, to 11:40:49

15 identify distinct objects in the world around it and 11:40:54

16 possibly classify those objects in terms of perhaps, 11:41:00

17 for example, being a person, a pedestrian, another car 11:41:06

18 or a bus and passing that information to the next 11:41:12

19 layers of software that could exist. 11:41:15

20 Q. And in the context of our conversation, what 11:41:18

21 does the compute team do? 11:41:20

22 A. So this would be a vague term. I can only 11:41:24

23 guess what you might be hinting at, but I know that 11:41:27

24 there are other software and software groups writing 11:41:32

25 software that operate on an autonomous vehicle. 11:41:37

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1 Q. What is a software that decides when to turn 11:41:39
2 and when to stop? What is that called within Uber? 11:41:43
3 A. If I'm not mistaken, I believe that is called 11:41:45
4 planning. 11:41:46

5 Q. [REDACTED] [REDACTED]

[REDACTED] 11:41:51

7 MR. KIM: Objection; form. 11:41:53

8 THE WITNESS: [REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED] 11:42:04

11 BY MR. JAFFE: 11:42:04

12 Q. And you understand that the planning software 11:42:06
13 leverages LiDAR data; right? 11:42:09

14 MR. KIM: Objection; form. 11:42:13

15 THE WITNESS: I want to be specific and say I 11:42:16
16 don't know whether the planning software leverages 11:42:19
17 native LiDAR data or data that's output from the 11:42:24
18 perception software. I just don't know. 11:42:28

19 BY MR. JAFFE: 11:42:28

20 Q. Let's be clear, though. 11:42:29

21 The planning software leverages data that 11:42:32
22 came from the LiDAR? 11:42:34

23 A. Yes. 11:42:34

24 Q. You don't dispute that; right? 11:42:36

25 A. No. 11:42:36

1	Q. Okay.	11:42:39
2	MR. JAFFE: Let's mark -- this will be 152.	11:43:26
3	THE REPORTER: Correct.	11:43:26
4	It's the supplemental declaration, 152?	
5	MR. JAFFE: Correct.	
6	THE REPORTER: I think you need this one.	
7	(Plaintiff's Exhibit 152 was marked.)	11:43:29
8	BY MR. JAFFE:	11:43:29
9	Q. Did I give you two copies?	11:43:55
10	A. Yeah.	
11	Q. Mr. Haslim, whose idea was it for you to	11:44:05
12	write this supplemental declaration?	11:44:08
13	MR. KIM: Objection to the extent it calls for	11:44:12
14	privileged information.	11:44:14
15	Instruct you not to answer or	11:44:18
16	reveal -- answer to the extent it reveals any	11:44:23
17	privileged communications with any attorneys.	11:44:27
18	THE WITNESS: So I would say the legal team	11:44:33
19	working for Uber instructed this.	11:44:37
20	BY MR. JAFFE:	
21	Q. And I don't want to get into properly	11:44:40
22	privileged conversations. All I want to ask is, in	11:44:46
23	terms of this document, 152, your declaration, was it	11:44:49
24	something where you said, I want to put in a new	11:44:52
25	declaration or someone approached you and said, we	11:44:54

1 want a new declaration? 11:44:56
2 MR. KIM: And, again, you can answer whether or 11:44:59
3 not it was done at the direction of counsel, but don't 11:45:03
4 reveal any privileged communications with counsel. 11:45:07
5 THE WITNESS: Okay. So this was generated at the 11:45:11
6 instruction of counsel. 11:45:12
7 BY MR. JAFFE: 11:45:12
8 Q. Okay. So we're clear, the lawyers -- and I 11:45:17
9 don't want to get into the substance of any 11:45:18
10 communications here, but just for the purposes of the 11:45:21
11 record, your supplemental declaration was put together 11:45:26
12 at the request of Uber's lawyers; fair? 11:45:30
13 A. Yes. 11:45:30
14 Q. Since our last deposition, have you discussed 11:45:39
15 any content of your declarations or the deposition 11:45:42
16 with any nonlawyers? 11:45:50
17 A. I don't recall any substantive discussion 11:45:53
18 with nonlawyers. 11:45:55
19 Q. Have you spoken with Mr. Levandowski about 11:45:58
20 the subject matter of this case? 11:46:01
21 A. Not in any substantive way. 11:46:06
22 Q. At all? 11:46:07
23 A. It's probably -- yes. 11:46:11
24 Q. What did you and Mr. Levandowski discuss? 11:46:14
25 MR. KIM: And I want to caution you -- if you had 11:46:17

1 any of these discussions in the presence of lawyers, 11:46:20
2 would caution you not to reveal any privileged 11:46:22
3 communications. 11:46:25

4 THE WITNESS: This jovial, high-level, 11:46:30
5 nonsubstantive discussion -- "discussion" is almost a 11:46:35
6 strong term. How about, how are you doing, how are 11:46:39
7 you feeling? 11:46:40

8 BY MR. JAFFE: 11:46:40

9 Q. Please tell me everything that you remember 11:46:44
10 about the conversations that you had with 11:46:46
11 Mr. Levandowski about the subject matter of this case? 11:46:50

12 A. [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] 11:47:15

18 MR. KIM: Objection; form. 11:47:17

19 THE WITNESS: [REDACTED] 11:47:17

20 BY MR. JAFFE: 11:47:17

21 Q. [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] 11:47:26

25 Q. Sorry. Continue. 11:47:30

1 A. [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 11:47:45
5 Q. Anything else? 11:47:46
6 A. [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 11:48:13
13 Q. Anything else? 11:48:15
14 A. No. 11:48:15
15 Q. [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 11:48:25
19 Q. Why not? 11:48:26
20 A. I don't know. 11:48:29
21 Q. You don't care? 11:48:30
22 A. No. 11:48:31
23 [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 11:48:39

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Q. You're aware that Mr. Levandowski, when asked 11:49:36

whether these files were at Uber, pled the Fifth 11:49:41

Amendment to avoid self-incrimination; right? 11:49:46

MR. KIM: Objection; form. 11:49:47

THE WITNESS: I've read articles that said that, 11:49:48

yes. 11:49:49

BY MR. JAFFE: 11:49:49

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■ 11:49:59

1	MR. KIM: Objection; form.	11:50:00
2	THE WITNESS: I'm sorry.	11:50:01
3	BY MR. JAFFE:	11:50:01
4	Q. You think it's a joke?	11:50:02
5	A. I think it's impossible, in my opinion, that	11:50:07
6	those files would be at Uber.	11:50:10
7	Q. How can you possibly know?	11:50:14
8	A. I cannot know, but it strikes me as	11:50:18
9	ridiculous.	11:50:19
10	Q. It strikes you as ridiculous?	11:50:21
11	A. Yeah.	11:50:21
12	Q. You think it's ridiculous that	11:50:24
13	Mr. Levandowski pleads his constitutional right to	11:50:26
14	avoid self-incrimination when asked where these files	
15	are and it's ridiculous for us to ask where they are;	11:50:32
16	that's what you think?	11:50:34
17	MR. KIM: Objection; form.	11:50:36
18	THE WITNESS: You're asking my personal opinion.	11:50:38
19	I think it's extremely unlikely to the point of	11:50:43
20	ridiculous that those files are on a computer somehow	11:50:47
21	at Uber after all of the forensics that were done on	11:50:53
22	Anthony's computer, as it was described to us, after	11:50:58
23	all the searching of all the hard drives that we can	11:51:02
24	come up with.	11:51:03
25	BY MR. JAFFE:	11:51:03

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1 Q. You do know that no one has searched 11:51:07
2 Mr. Levandowski's personal computer; right? 11:51:10
3 MR. KIM: Objection; form. 11:51:10
4 THE WITNESS: I have read that in an article or 11:51:12
5 two. 11:51:14
6 BY MR. JAFFE: 11:51:14
7 Q. And he's refusing to turn those over, again 11:51:17
8 based on his rights to avoid incriminating himself? 11:51:23
9 MR. KIM: Objection; form. 11:51:24
10 THE WITNESS: That's my understanding. 11:51:25
11 BY MR. JAFFE: 11:51:25
12 Q. [REDACTED] [REDACTED] 11:51:25
[REDACTED] [REDACTED] 11:51:31
14 MR. KIM: Objection; form. 11:51:31
15 [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] 11:51:40
18 BY MR. JAFFE: 11:51:40
19 Q. [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] 11:51:48
22 MR. KIM: Objection; form. 11:51:50
23 THE WITNESS: Is that a question? 11:51:51
24 BY MR. JAFFE: 11:51:51
25 [REDACTED] [REDACTED] 11:51:53

1	MR. KIM: Objection; form.	11:51:54
2	THE WITNESS: [REDACTED]	11:51:55
3	BY MR. JAFFE:	11:51:55
4	Q. Do you take intellectual property rights	11:51:59
5	seriously?	11:52:01
6	A. Yes.	11:52:01
7	Q. Do you think it's wrong for one company to	11:52:03
8	steal another company's intellectual property rights?	11:52:07
9	A. Yes.	11:52:07
10	Q. Do you think that's a joke?	11:52:10
11	A. No.	11:52:10
12	Q. Do you think that's something that should be	11:52:12
13	taken seriously?	11:52:15
14	A. Yes.	11:52:15
15	Q. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	11:52:31
18	MR. KIM: Objection; form.	11:52:35
19	THE WITNESS: No.	11:52:36
20	BY MR. JAFFE:	11:52:36
21	Q. [REDACTED]	11:52:40
22	MR. KIM: Same objection.	11:52:42
23	THE WITNESS: [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	11:52:49

1	BY MR. JAFFE:	11:52:49
2	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	11:53:02
6	MR. KIM: Objection; form.	11:53:05
7	THE WITNESS: I don't know.	11:53:06
8	BY MR. JAFFE:	11:53:06
9	Q. You don't know?	11:53:07
10	A. [REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	11:53:28
17	Q. Okay. Turning back to your supplemental	11:53:38
18	declaration, which is 151. Let's go to paragraph 13.	11:53:46
19	Actually, before we get there, start with	11:53:51
20	paragraph 7.	11:53:53
21	Here you're talking about the fiber lasers in	11:54:00
22	the Spider design; right?	11:54:01
23	A. Sorry. 152 or 151?	11:54:05
24	Q. 152. Excuse me.	11:54:07
25	A. Sorry.	11:54:08

1	(Witness reviews document.)	11:54:26
2	A. Repeat your question, please.	11:54:27
3	Q. Paragraph 7 of your supplemental declaration,	11:54:30
4	Exhibit 152, is talking about the design of the fiber	11:54:32
5	laser in the Spider?	11:54:36
6	A. Yes. Yes.	11:54:37
7	Q. You don't mention Mr. Levandowski's	11:54:40
8	involvement in paragraph 7, do you?	11:54:43
9	A. No.	11:54:43
10	Q. You don't mention that Mr. Levandowski	11:54:45
11	pointed you to [REDACTED] right?	11:54:52
12	A. No.	11:54:52
13	Q. You don't mention his role in the design of	11:54:55
14	the laser at all in paragraph 7, do you?	11:54:58
15	A. No.	11:55:00
16	Q. All right. Let's go to paragraph 13, talking	11:55:13
17	about Fuji again. So here you're pointing -- you	11:55:27
18	excerpt a document that you say discusses beam spacing	11:55:32
19	and angles for the Fuji design; is that right?	11:55:35
20	A. Yes.	11:55:36
21	Q. And just looking at what's depicted here,	11:55:41
22	where is [REDACTED] mentioned?	11:55:47
23	A. Neither [REDACTED] are mentioned, nor [REDACTED]	
[REDACTED]	[REDACTED] However, it can be implied	11:56:00
25	from [REDACTED] and it can be implied	11:56:06

1 BY MR. JAFFE: 11:59:09
2 Q. And did you ever discuss the idea to use [REDACTED] [REDACTED]
[REDACTED] with Mr. Levandowski? 11:59:19
3 A. No, not that I recall. 11:59:22
4 Q. So when you were presenting the pivot to 11:59:27
5 Mr. Levandowski, it never came up how many transmit 11:59:30
6 boards there would be? 11:59:31
7 A. No. 11:59:31
8 Q. He had no idea? 11:59:33
9 A. He had no idea. 11:59:34
10 Q. And you never discussed with Mr. Levandowski 11:59:40
11 the details of the Fuji design in terms of the number 11:59:43
12 of transmit boards; is that true? 11:59:45
13 A. I don't recall having any discussion like 11:59:48
14 that at all. 11:59:49
15 Q. So you're saying you don't recall? I just 11:59:53
16 want to be clear. 11:59:55
17 A. Yes. 11:59:56
18 Q. So I'll ask my question again. 11:59:58
19 Have you ever discussed with Mr. Levandowski 12:00:01
20 the number of transmit boards in the Fuji design? 12:00:05
21 MR. KIM: Objection; form. 12:00:07
22 THE WITNESS: I don't recall having any discussion 12:00:11
23 about the number of transmit boards. 12:00:14
24 BY MR. JAFFE: 12:00:14

1	Q. Are you aware of any conversations between	12:00:17
2	Mr. Gruver or Mr. Pennecot and Mr. Levandowski	12:00:20
3	regarding the number of transmit boards in the Fuji	12:00:24
4	design?	12:00:24
5	MR. KIM: Objection; form.	12:00:26
6	THE WITNESS: I am not aware.	12:00:28
7	BY MR. JAFFE:	12:00:28
8	Q. So it's possible that they have discussed	12:00:29
9	this issue with them, you wouldn't know that; right?	12:00:32
10	A. I wouldn't know that.	12:00:34
11	Q. So you're not saying that Mr. Levandowski has	12:00:36
12	never had discussions or input into the idea to use	12:00:40
13	[REDACTED]; right?	12:00:43
14	MR. KIM: Objection; form.	12:00:46
15	THE WITNESS: What I am saying is that Anthony	12:00:48
16	never had input into my decision with my electrical	12:00:55
17	engineer to put [REDACTED].	12:01:00
18	BY MR. JAFFE:	12:01:00
19	Q. Right.	12:01:00
20	But you talked about that decision with	12:01:02
21	Mr. Gruver, for example; right?	12:01:03
22	A. I think discussions with Gruver came later,	12:01:07
23	yeah.	12:01:07
24	Q. Or Mr. Pennecot, for example?	12:01:10
25	A. Mr. Pennecot was probably consulted in that	12:01:13

1 process as well. 12:01:14

2 Q. And you're not aware and you can't testify, 12:01:16

3 sitting here today, whether either of those two 12:01:19

4 gentleman discussed this idea with Mr. Levandowski; is 12:01:23

5 that right? 12:01:24

6 MR. KIM: Objection; form. 12:01:25

7 THE WITNESS: I couldn't say. 12:01:25

8 BY MR. JAFFE:

9 Q. So in your declaration or in anywhere, can't 12:01:28

10 say that Mr. Levandowski had no input into the number 12:01:32

11 of boards because you don't know all the conversations 12:01:35

12 that Mr. Levandowski had; fair? 12:01:37

13 MR. KIM: Objection; form. 12:01:37

14 THE WITNESS: No, I disagree with that. 12:01:39

15 BY MR. JAFFE: 12:01:39

16 Q. Why? 12:01:41

17 A. When you go so far as to say input into the 12:01:44

18 design, I don't see how some conversation with Anthony 12:01:49

19 could have influenced what I saw as a need to split 12:01:53

20 the lasers [REDACTED] [REDACTED]

[REDACTED] 12:01:58

22 Q. So where did you get that idea from? 12:02:01

23 A. I don't recall where the idea came from, but 12:02:12

24 it seemed like a requirement from the beginning. 12:02:16

25 Q. What does that mean? 12:02:17

1 A. We knew that we were placing edge-emitting 12:02:22
2 laser diodes on a flat PCB. 12:02:26
3 Q. And that was the PCB that Mr. Pennecot 12:02:29
4 designed; right? 12:02:29
5 A. Yes. 12:02:29
6 Q. And that's the board that eventually was sent 12:02:35
7 to Gorilla in December? 12:02:38
8 A. That was one of the boards. 12:02:40
9 So when we knew we were placing these boards 12:02:48
10 flat onto a PCB, edge-emitting diodes, and we realized 12:02:53
11 they [REDACTED] [REDACTED]
[REDACTED], as 12:03:01
13 I recall, [REDACTED] [REDACTED]
[REDACTED] was obvious. 12:03:08
15 Q. I see. 12:03:08
16 So you got the board design from Mr. Pennecot 12:03:13
17 and you knew you wanted 64 channels because you 12:03:17
18 were -- wanted to do something similar to what 12:03:21
19 Velodyne was doing and then derivative from that is 12:03:25
20 how you got to [REDACTED] 12:03:28
21 MR. KIM: Objection; form. 12:03:29
22 THE WITNESS: That's taking it actually out of 12:03:32
23 sequence. 12:03:33
24 BY MR. JAFFE: 12:03:33
25 Q. Okay. Can you put it in sequence, please. 12:03:36

1 A. Yes. 12:03:36

2 We knew we needed a laser circuit, so I had 12:03:40

3 Florin design multiple laser circuits onto a board for 12:03:45

4 test and evaluation. We picked one of those circuits 12:03:48

5 that we thought performed the best. He began 12:03:51

6 considering the size of his circuit in one of those -- 12:03:56

7 I believe it was 10 different circuits. The one we 12:03:59

8 chose, he could look at the design of it and tell me 12:04:02

9 the size. 12:04:04

10 So at this point, as I recall, Gaetan did not 12:04:10

11 have a laser board design in his CAD model. He had a 12:04:20

12 lens design. He may have had -- I even doubt he had 12:04:26

13 taken that into CAD yet. 12:04:29

14 Q. So I'm a little bit confused. 12:04:32

15 Where did the idea to have [REDACTED] come 12:04:34

16 from? 12:04:35

17 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED] The need to 12:04:49

19 [REDACTED] developed quickly between 12:04:56

20 Florin and I looking at the size of the circuit, 12:04:59

21 knowing when Scott Boehmke defines a certain [REDACTED] [REDACTED]

[REDACTED] [REDACTED] when Gaetan has 12:05:08

23 designed a lens that has a 150 millimeter focal 12:05:13

24 length, it becomes apparent that the [REDACTED] [REDACTED]

[REDACTED] 12:05:19

1 [REDACTED] [REDACTED]
2 [REDACTED] 12:05:24
3 It was obvious to me that wasn't going to 12:05:26
4 work and we would have to [REDACTED] [REDACTED]
5 [REDACTED] Later we went back and looked closer, and I 12:05:33
6 realized, wait a minute, [REDACTED] [REDACTED]
7 [REDACTED] So we can't put circuits on [REDACTED] [REDACTED]
8 [REDACTED] [REDACTED]
9 [REDACTED] 12:05:47
10 Furthermore, we were starting to look at 12:05:50
11 components on the receiver. We saw components on the 12:05:53
12 receiver that were themselves [REDACTED] 12:05:58
13 Those were high voltage components. They needed 12:06:00
14 additional space between them as well. So it seemed 12:06:01
15 pretty clear at the time [REDACTED] was not 12:06:05
16 going to work, so we said [REDACTED] Florin 12:06:09
17 thought he could [REDACTED] 12:06:14
18 So that ended up with [REDACTED] [REDACTED]
19 [REDACTED] We already had decided two cavities to make 12:06:20
20 64 channels, so that ended up with [REDACTED] 12:06:24
21 in the sensor. 12:06:25
22 Q. Where are the documents that reflect the 12:06:27
23 discussions that you were just talking about? 12:06:31
24 A. We did not document our discussions. 12:06:33
25 Q. Okay. So there are no -- there's no 12:06:35

1 documentary evidence to evidence -- to support what 12:06:39
2 you just said? 12:06:40
3 MR. KIM: Objection; form. 12:06:42
4 BY MR. JAFFE: 12:06:42
5 Q. Is that fair? 12:06:42
6 A. Not quite. 12:06:43
7 We have documents showing and indicating to 12:06:47
8 us what the vertical angles were to be for the sensor 12:06:52
9 as specified by Scott Boehmke. We have a lens design 12:06:57
10 that's documented from Gaetan. We have the original 12:07:03
11 circuit Florin had developed for testing out lasers. 12:07:10
12 At that point, the documentation stopped. 12:07:14
13 And we don't have documents for discussions describing 12:07:22
14 how [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 12:07:27
16 Q. Okay. So I just want to run through that 12:07:30
17 real quick. 12:07:30
18 So you're saying that you got the idea for 12:07:34
19 [REDACTED] based on three things. One is the [REDACTED] [REDACTED]
[REDACTED] of the diodes that you wanted. Two is the 12:07:43
21 [REDACTED]. And three is the [REDACTED] [REDACTED]
[REDACTED] 12:07:49
23 Generally, is that fair? 12:07:53
24 A. I'd like you to add a fourth, which is the 12:07:56
25 [REDACTED] and possibly a 12:08:04

1 [REDACTED] [REDACTED]

2 [REDACTED] 12:08:10

3 Q. So that's part of the circuitry, though? 12:08:12

4 A. Yeah.

5 Q. So if we say number 3 is the [REDACTED] [REDACTED]

6 [REDACTED] would that capture everything that you're 12:08:19

7 talking about? 12:08:20

8 A. With the clarification that circuitry 12:08:22

9 involves a channel, both receive and transmit, then I 12:08:26

10 can agree to that. 12:08:27

11 Q. Fair enough. 12:08:28

12 So there were three, generally, things, now 12:08:29

13 that we've kind of established our terminology, that 12:08:33

14 you say -- 12:08:36

15 A. Sorry. Did you include the focal length of 12:08:40

16 the lens Gaetan was designing? 12:08:41

17 Q. No. 12:08:41

18 A. That's important. 12:08:43

19 Q. Okay. So add that as number 4, focal length 12:08:48

20 of lens. All right. 12:08:51

21 So the [REDACTED] that you're talking 12:08:54

22 about -- the issue that you're talking about there is 12:08:58

23 that [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] right? 12:09:08

1 A. I think you misspoke. The resulting [REDACTED] [REDACTED]
[REDACTED]
[REDACTED] 12:09:20

4 Q. I see. 12:09:21

5 So the fact that you needed to have the 12:09:23

6 [REDACTED] [REDACTED]

7 [REDACTED] is that basically 12:09:31

8 it or am I messing it up again? 12:09:34

9 MR. KIM: Objection; form. 12:09:35

10 THE WITNESS: It was the [REDACTED] [REDACTED]
11 [REDACTED]-- 12:09:39

12 BY MR. JAFFE:

13 Q. I see. 12:09:39

14 A. -- that required them eventually to [REDACTED] [REDACTED]
15 [REDACTED] 12:09:45

16 Q. And the [REDACTED] [REDACTED]
17 [REDACTED] is that right? 12:09:49

18 A. The [REDACTED] [REDACTED]
19 [REDACTED] [REDACTED]
20 [REDACTED] 12:09:59

21 Q. And -- okay. And the spacing, that's what 12:10:08

22 Mr. Boehmke -- continue to mispronounce his name 12:10:14

23 probably correctly -- he provided to you in November 12:10:16

24 of 2016? 12:10:17

25 A. Yes, he provided the angular spacing, if I 12:10:20

1 may. 12:10:21

2 Q. Okay. We'll get to that a little bit later. 12:10:25

3 Mr. Boehmke didn't provide you how many 12:10:29

4 boards to use; right? 12:10:30

5 A. Right. 12:10:30

6 Q. And then the FAC lens, that was provided by 12:10:35

7 Mr. Pennecot; right? 12:10:36

8 A. That is my understanding. 12:10:39

9 Q. He came up with the FAC lens design; right? 12:10:42

10 A. That's my understanding. 12:10:44

11 Q. And it's a [REDACTED] FAC lens; right? 12:10:47

12 MR. KIM: Objection; form. 12:10:48

13 THE WITNESS: It's [REDACTED] 12:10:51

14 BY MR. JAFFE: 12:10:51

15 Q. That's larger than -- sorry. 12:10:53

16 A. It's 2 [REDACTED] [REDACTED] 12:10:59

[REDACTED] [REDACTED] 12:10:59

18 Q. Do you know how large the FAC lenses are for 12:11:03

19 Velodyne's devices? 12:11:05

20 [REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED]. 12:11:16

23 Q. Do you know how large it is?

24 A. Are you asking diameter or are you asking

25 length?

1 Q. To compare it to [REDACTED] 12:11:17
2 [REDACTED] [REDACTED]
3 [REDACTED] 12:11:24
4 Q. And so that lens design came from 12:11:30
5 Mr. Pennecot and the circuitry came from Florin; is 12:11:33
6 that right? 12:11:34
7 A. Yes. 12:11:34
8 Q. So none of those folks came up with [REDACTED]
9 [REDACTED] right? 12:11:45
10 MR. KIM: Objection; form. 12:11:47
11 THE WITNESS: They were certainly involved in the 12:11:49
12 decision to go to [REDACTED] because I 12:11:53
13 had to consult with them in terms of what would be 12:11:56
14 possible for circuit spacing, in the case of Florin. 12:12:00
15 And to make sure that Gaetan's group lens can handle 12:12:06
16 the [REDACTED] 12:12:09
17 BY MR. JAFFE:
18 Q. And just to go back to your declaration here, 12:12:12
19 this diagram that you're showing in Figure 6 in 12:12:16
20 paragraph 13, there's no discussion in here of [REDACTED]
21 [REDACTED] right? 12:12:22
22 A. There's no discussion of [REDACTED]
23 [REDACTED] in Figure 6. Although if you understand Figure 12:12:31
24 6, it could be easily derived. 12:12:36
25 Q. That wasn't my question. 12:12:36

1 Q. So just going back to what we were talking 12:23:09
2 about earlier, you're saying that Mr. Boehmke provided 12:23:12
3 you the custom beam spacing and you imported that data 12:23:17
4 into Zemax to determine the resultant emitting points 12:23:23
5 of the laser diodes, and those you just picked as a 12:23:28
6 first matter, [REDACTED] 12:23:32

7 MR. KIM: Objection; form. 12:23:36

8 THE WITNESS: We didn't pick it as first matter. 12:23:38
9 We discussed this already, that I would have loved to 12:23:41
10 [REDACTED] and we found we couldn't do 12:23:45
11 that. [REDACTED] We decided we had 12:23:45
12 to [REDACTED]

[REDACTED] [REDACTED]. That decision went 12:23:58
14 into the first -- earliest CAD designs of the optical 12:24:04
15 cavity for Fuji. 12:24:06

16 BY MR. JAFFE: 12:24:06

17 Q. So you didn't do any sort of other Zemax 12:24:08
18 simulations of other board and diode arrangements? 12:24:14

19 A. I'm not aware. I don't recall doing any CAD 12:24:19
20 designs for other board arrangements. 12:24:23

21 Q. So by November 4th, 2016, you and your team 12:24:29
22 had already arrived at [REDACTED] [REDACTED]

[REDACTED] [REDACTED] is that right? 12:24:35

24 A. It's possible that that was by November 4th. 12:24:40
25 It's also possible that it was shortly after the 4th. 12:24:44

1	Q. So you -- sorry.	12:24:46
2	A. There's a potential for a time lag from	12:24:50
3	Scott's prescribed beam angles and when we actually	12:24:55
4	did the determination of six total boards and got	12:24:59
5	those into a CAD model.	12:25:01
6	Q. And you only started the Fuji project at the	12:25:03
7	end of October; right?	12:25:05
8	A. Yes.	
9	Q. So you came up with the [REDACTED] [REDACTED]	
[REDACTED]	[REDACTED] design in a week, approximately?	12:25:14
11	MR. KIM: Objection; form.	12:25:16
12	THE WITNESS: I don't know if it was exactly a	12:25:17
13	week. Or could have been more than a week, but it was	12:25:20
14	something on the order of a week.	12:25:22
15	BY MR. JAFFE:	12:25:22
16	Q. About a week?	12:25:24
17	A. Within some small multiple of one week. One	12:25:30
18	week, two weeks, three weeks possible, yes, on a very	12:25:34
19	short time scale.	12:25:36
20	Q. And you didn't -- after receiving these beam	12:25:41
21	spacings from Mr. Boehmke, you didn't even consider	12:25:44
22	other designs other than [REDACTED] [REDACTED]	
[REDACTED]	[REDACTED] right?	12:25:51
24	A. That feels a little out of sequence. So I	12:25:59
25	believe we got the angles from Scott for our sensor.	12:26:05

1 The decision for how many boards to place them on 12:26:08
2 would have to occur after we knew what those angles 12:26:12
3 were. 12:26:13

4 Q. So you got the custom beam spacing from 12:26:32
5 Mr. Boehmke; and then one to three weeks later, you 12:26:37
6 knew you were doing [REDACTED] [REDACTED]

[REDACTED] 12:26:43

8 A. Yes. 12:26:43

9 Q. And at that time, in between receiving 12:26:46
10 Mr. Boehmke's custom beam spacing, you didn't 12:26:50
11 consider -- even consider any other designs other than 12:26:52
12 [REDACTED] 12:26:57

13 right? 12:26:57

14 A. No. When Scott gave us the prescribed 12:27:02
15 angles, we had to first consider [REDACTED] [REDACTED]

[REDACTED] And that was the process we've already 12:27:07
17 discussed to arrive at [REDACTED] but that's after 12:27:11
18 Scott originally told us what the angles would be. 12:27:14

19 Q. But I'm confused. 12:27:15

20 Because when we were talking earlier about 12:27:17
21 after you received the data, you said you only 12:27:19
22 provided one summary into Zemax and that was [REDACTED]
[REDACTED] 12:27:24

24 A. Yes. 12:27:24

25 Q. So you didn't even -- when you were looking 12:27:27

1	Google?	12:29:47
2	A. No.	12:29:47
3	Q. You didn't have any understanding?	12:29:49
4	A. No.	12:29:49
5	Shall we go back to our list in terms of	12:29:56
6	elements that are important?	12:29:57
7	Q. Let me see if I can short-circuit this.	12:30:00
8	My understanding is you're saying they were	12:30:02
9	all required, so one isn't more important than the	12:30:06
10	other; is that fair?	12:30:07
11	A. That's fair.	12:30:08
12	Q. So then we don't need to go through them.	12:30:11
13	Let's turn to page 17 of your declaration.	12:30:14
14	A. Page or paragraph?	12:30:17
15	Q. Excuse me. Paragraph 17.	12:30:21
16	A. Okay.	12:30:21
17	Q. It's on page 11.	12:30:23
18	A. Thank you.	12:30:24
19	Q. And I'm in your supplemental declaration,	12:30:28
20	which is 152.	12:30:30
21	MR. KIM: What paragraph?	12:30:34
22	MR. JAFFE: 17. It's the long paragraph, so it's	12:30:38
23	page 11 if you're looking for it.	12:30:40
24	BY MR. JAFFE:	12:30:40
25	Q. So there are two things labeled here, Figure	12:30:45

1 8A and 8B. 12:30:48

2 Do you see that? 12:30:49

3 A. Yes. 12:30:49

4 Q. So just for clarification here, the letters 12:30:55

5 that are on there, those are letters that you added 12:30:58

6 for purposes of your declaration; right? 12:30:59

7 A. Yes, those were added for this declaration. 12:31:04

8 Q. In the document as it was created in November 12:31:06

9 2016, it did not have these letters on it; right? 12:31:09

10 A. Right. 12:31:09

11 Q. So this is a modified version for your 12:31:12

12 declaration? 12:31:13

13 A. Yes. 12:31:14

14 Q. And if we go to the November 2016 data that 12:31:22

15 you were looking at that formed the basis of this, it 12:31:28

16 did not include these letterings; right? 12:31:29

17 A. Right. 12:31:29

18 Q. So in November 2016, there was no -- 12:31:36

19 Mr. Boehmke did not provide the distribution of these 12:31:40

20 beams onto particular boards; right? 12:31:43

21 A. Right. 12:31:43

22 Q. So the November 2016 data from Mr. Boehmke, 12:31:55

23 that did not provide any information as to how these 12:31:59

24 beams would be distributed [REDACTED] [REDACTED]

1 A. It provided no prescription for that 12:32:07
2 distribution. 12:32:09

3 Q. Let's go to the next page here at the end of 12:32:17
4 paragraph 17. 12:32:18

5 So this chart here at the end of paragraph 12:32:22
6 17, again, this is something you generated for your 12:32:26
7 declaration; right? 12:32:26

8 A. Yes. 12:32:27

9 Q. This isn't some document that you're just 12:32:31
10 showing? This is something that you generated for 12:32:33
11 this case? 12:32:34

12 A. Um-hum. That's right. 12:32:35

13 Q. Now, what is being shown here in this table? 12:32:40

14 A. So this table is showing the vertical beam 12:32:46
15 angles in a November 16th document from Scott Boehmke 12:32:51
16 in this first white column. The next column labeled 12:32:57
17 "Current" contains the angles that we actually used. 12:33:03
18 And the green shows the discrepancy between them. 12:33:07

19 Q. Okay. And again the [REDACTED] [REDACTED]
[REDACTED] that's all information that you added 12:33:20
21 later? 12:33:21

22 A. Added later for clarity, yes. 12:33:22

23 Q. That's not information that came from the 12:33:24
24 November 16th document provided by Mr. Boehmke; right? 12:33:27

25 A. Right. 12:33:27

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1 Q. So no one should be confused as to whether 12:33:30
2 this data is originally from November 2016 in terms of 12:33:35
3 the [REDACTED] right? 12:33:37
4 A. Nobody should be confused that the [REDACTED] 12:33:41
5 had come from Scott, because it did not. 12:33:43
6 Q. Right. You added it in here for purposes of 12:33:45
7 your declaration? 12:33:46
8 A. Yeah. 12:33:46
9 Q. All right. So you've mentioned -- I want to 12:33:50
10 just clarify a little bit of terminology here. What's 12:33:55
11 shown here at the end of paragraph 17 is talking about 12:34:00
12 angles; right? 12:34:01
13 A. Right. 12:34:01
14 Q. And what angle are we talking about? 12:34:04
15 A. We're talking about the vertical angle 12:34:08
16 reference to a horizontal plane measured in degrees 12:34:12
17 such that positive numbers are above horizontal, 12:34:18
18 negative numbers are below horizontal. 12:34:20
19 Q. Okay. Are you familiar with the concept of 12:34:23
20 beam spacing? 12:34:24
21 A. Perhaps you could clarify. 12:34:26
22 Q. Let's go back to the prior page. And to page 12:34:35
23 10. The heading, do you see it says "Beam spacing in 12:34:41
24 Fuji"? 12:34:41
25 A. Um-hum. 12:34:42

1 Q. "Beam spacing," what do you mean? 12:34:44
2 A. So beam spacing can be used to refer to the 12:34:49
3 [REDACTED] [REDACTED]
4 [REDACTED]. Since it refers to beam and not 12:35:04
5 laser spacing, then I'm going to say probably does not 12:35:07
6 refer to linear dimensions. 12:35:10
7 Q. When you are saying [REDACTED] -- what you're 12:35:12
8 saying -- when you're talking about [REDACTED] [REDACTED]
9 [REDACTED] [REDACTED]
10 [REDACTED] is that fair? 12:35:20
11 A. That's fair. 12:35:20
12 Q. Just to be clear, again, when -- we're going 12:35:24
13 back to the end of paragraph 17. You are not talking 12:35:27
14 about [REDACTED] [REDACTED]
15 [REDACTED] right? 12:35:33
16 MR. KIM: Objection; form. 12:35:36
17 THE WITNESS: This does not refer to the absolute 12:35:38
18 positions of the diodes. I'm referring to the end of 12:35:40
19 paragraph 17. The figure refers to the angular 12:35:44
20 prescribed angles. 12:35:47
21 BY MR. JAFFE: 12:35:47
22 Q. So I want to introduce a new term here. 12:35:50
23 You're familiar -- when we have the diodes, 12:35:53
24 one way that they're represented, they're position is 12:35:56
25 X and Y; right? 12:35:58

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1 A. Right. 12:35:58

2 Q. And I want to refer to the difference between 12:36:02

3 two diodes on the Y axis as vertical spacing. 12:36:07

4 Do you understand what I'm referring to? 12:36:08

5 A. Yes. 12:36:08

6 Q. What you're talking about here in paragraph 12:36:10

7 17 does not show the differences in the vertical 12:36:12

8 spacing between the diodes; right? 12:36:16

9 MR. KIM: Objection; form. 12:36:17

10 THE WITNESS: Agreed, paragraph 16 does not refer 12:36:20

11 to vertical -- 12:36:22

12 BY MR. JAFFE: 12:36:22

13 Q. 17. 12:36:22

14 A. Sorry. In paragraph 17, we are not referring 12:36:26

15 to --

16 MR. KIM: Same objection. 12:36:28

17 THE WITNESS: -- the vertical dimension on a laser 12:36:30

18 board. 12:36:31

19 BY MR. JAFFE:

20 Q. So the [REDACTED], that's 12:36:35

21 here at the end of 17, that's not referring to the 12:36:36

22 [REDACTED] 12:36:39

23 in Fuji; right? 12:36:40

24 MR. KIM: Objection; form. 12:36:42

25 THE WITNESS: That's right. 12:36:43

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1	MR. KIM: We've been going over an hour. Can we	12:37:24
2	break for lunch?	12:37:26
3	MR. JAFFE: Yes, we can break.	12:37:28
4	THE VIDEOGRAPHER: We are off the record at 12:37	12:37:30
5	p.m.	12:37:30
6	(Lunch recess was taken at 12:37 p.m.)	12:37:30
7	(Nothing omitted or deleted. See next page).	
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1	AFTERNOON SESSION	1:38 P.M.
2	- - -	
3	THE VIDEOGRAPHER: We are back on the record at	13:38:23
4	1:38 p.m.	13:38:24
5	EXAMINATION RESUMED	13:38:24
6	BY MR. JAFFE:	13:38:24
7	Q. Welcome back.	13:38:28
8	A. Thank you.	13:38:28
9	Q. I want to turn to your original declaration.	13:38:31
10	I think it's 151. And in particular, in paragraph 20,	13:38:39
11	you state, "There are approximately [REDACTED] employees	13:38:41
12	currently working on the Fuji project."	13:38:44
13	Is that right?	13:38:45
14	A. Yes, I see it.	13:38:48
15	Q. How many employees are working at Uber on	13:38:54
16	LiDAR-related responsibilities?	13:38:56
17	MR. KIM: Objection; form.	13:39:02
18	THE WITNESS: There would be approximately [REDACTED]	13:39:03
19	employees at Uber working on LiDAR responsibilities	13:39:06
20	that I'm aware of.	13:39:10
21	BY MR. JAFFE:	13:39:10
22	Q. Your understanding is that there are only [REDACTED]	13:39:12
23	employees at Uber with LiDAR-related responsibilities;	13:39:16
24	is that right?	13:39:17
25	MR. KIM: Objection; form.	13:39:19

1	THE WITNESS: When I came up with the number, I	13:39:22
2	wanted to pick ones -- employees that had primary	13:39:26
3	responsibilities on LiDAR.	13:39:29
4	BY MR. JAFFE:	13:39:29
5	Q. So let me ask my question again then.	13:39:32
6	What is the number of employees at Uber that	13:39:37
7	have LiDAR-related responsibilities or projects?	13:39:43
8	MR. KIM: Objection; form.	13:39:43
9	THE WITNESS: I don't know off the top of my head	13:39:46
10	how many more employees have minor LiDAR	13:39:48
11	responsibilities.	13:39:50
12	BY MR. JAFFE:	13:39:50
13	Q. So when you're talking about this number of	13:39:52
14	employees here, you're not talking about the number of	13:39:54
15	employees working on LiDAR entirely at Uber; right?	13:39:59
16	MR. KIM: Objection; form.	13:40:02
17	THE WITNESS: Correct. I believe there may be a	13:40:07
18	few more employees that also have some minor	13:40:11
19	responsibility for LiDAR activities.	13:40:15
20	BY MR. JAFFE:	13:40:15
21	Q. What LiDAR technology are they working on?	13:40:18
22	A. They're not working on LiDAR technology.	13:40:21
23	They're working on perhaps sourcing components, just	13:40:26
24	general supply chain people.	13:40:28
25	Q. Okay. Are there any other LiDAR projects	13:40:32

1	within Uber other than the Fuji project?	13:40:35
2	A. No, there's not.	13:40:37
3	Q. You're not working on building LiDARs with	13:40:40
4	third-party companies?	13:40:42
5	MR. KIM: Objection; form.	13:40:44
6	THE WITNESS: I'm not working on LiDAR projects	13:40:48
7	with third-party companies.	13:40:50
8	BY MR. JAFFE:	13:40:50
9	Q. Right. So let me ask my question a little	13:40:53
10	bit differently.	13:40:53
11	Is Uber working on designing LiDARs with	13:40:58
12	third-party companies?	13:40:59
13	MR. KIM: Objection; form.	13:41:00
14	THE WITNESS: I think Scott Boehmke is working	13:41:05
15	with some third-party LiDAR suppliers.	13:41:09
16	BY MR. JAFFE:	13:41:09
17	Q. Who's he working with?	13:41:12
18	A. I am aware of [REDACTED]	13:41:13
19	Q. Um-hum.	
20	A. There's [REDACTED]. There is -- and I'll say	13:41:31
21	this confidential information. There's [REDACTED]	13:41:35
22	I'm not aware of any others at this point.	13:41:40
23	MR. KIM: At this point I'll just designate the	13:41:42
24	transcript attorneys' eyes only.	13:41:46
25	MR. JAFFE: What number are we at?	13:41:48

1	THE REPORTER: 153.	13:41:50
2	MR. JAFFE: Okay. So this is going to be 153.	13:41:53
3	(Plaintiff's Exhibit 153 was marked.)	13:42:07
4	BY MR. JAFFE:	
5	Q. So I'll just tell you for the record, this	13:42:09
6	was a document that Uber's lawyers prepared and	13:42:13
7	submitted to the court. That's where we got this	13:42:17
8	from.	13:42:18
9	A. Um-hum.	13:42:19
10	Q. Now, you were talking earlier about [REDACTED] folks	13:42:23
11	working on the Fuji project and that that's the only	13:42:26
12	LiDAR project. If you look at Section 2 here -- and	13:42:29
13	you can see my handwriting on this copy. Actually, I	13:42:33
14	hope my math is right, but on the bottom, on the	13:42:36
15	second page, I totaled it up. And I counted about [REDACTED]	13:42:40
16	employees here that said that they have LiDAR-related	13:42:43
17	responsibilities or projects.	13:42:45
18	A. Okay.	13:42:46
19	Q. What are those other folks doing?	13:42:48
20	A. I don't know what all these other people are	13:42:56
21	doing. So, for instance -- shall we just go down the	13:43:06
22	list?	13:43:06
23	Q. Well, let me ask generally.	13:43:09
24	If they're not working on Fuji, but they're	13:43:11
25	working on LiDAR, what are they working on?	13:43:15

1 A. If they're not working on Fuji . . . so let's 13:43:20
2 take -- I don't know if Phillip Haban, I don't know 13:43:26
3 what he's working on. I don't know Jacob Fischer. I 13:43:31
4 don't know what he's working on. Robert Doll, 13:43:34
5 he's -- I know he's an employee for the Pittsburgh 13:43:40
6 team. He's related to the hardware group or some 13:43:47
7 manufacturing aspect of that, but I don't know what 13:43:50
8 he's working on. 13:43:52

9 Sean Chin, I don't know who that is. Not 13:44:07
10 sure who Jay Kuvelker is and what he's working on. 13:44:13
11 Anthony Levandowski, he's a manager. I don't know how 13:44:19
12 he's working on Fuji or what he's working on. I would 13:44:23
13 say he's not working on Fuji, but we already 13:44:27
14 established that. 13:44:28

15 Q. Actually, why don't we pause there for a 13:44:30
16 second. 13:44:30

17 For the █ employees in your declaration, 13:44:32
18 does that include Mr. Levandowski? 13:44:34

19 A. No. 13:44:34

20 Q. So if he has LiDAR-related responsibilities 13:44:37
21 or projects here in Section 2 of this document, you 13:44:42
22 don't know what those are; is that fair? 13:44:44

23 A. I would say so. 13:44:45

24 And if I can be more clear about the █ 13:44:53
25 employees currently working on the Fuji project, I do 13:44:56

1 mean people working directly on the Fuji project. I 13:45:00
2 did not include people who were some levels of 13:45:03
3 management up who had some sort of dotted line or 13:45:06
4 eventual path of ownership or responsibility. I was 13:45:12
5 coming up with █ as people that I felt I could 13:45:14
6 solidly say would be adversely affected if the Fuji 13:45:19
7 project ended. 13:45:21

8 So there's still a lot of names on here. For 13:45:29
9 instance, take Ana Rayo, she's in a supply chain 13:45:32
10 group. She's responsible, I think, for some aspects 13:45:36
11 of receiving material. I would not have counted her 13:45:39
12 as primarily working on Fuji. 13:45:41

13 Q. Let me actually just stop you and ask a 13:45:44
14 different question, which is, how many of these people 13:45:47
15 you don't know what they're doing in terms of LiDAR 13:45:51
16 work. Can you just provide me a count? 13:45:54

17 A. Yep. 13:45:55

18 Q. And, actually, why don't we do this, I'm 13:46:01
19 going to hand you a pen. And why don't you just mark 13:46:04
20 the people that you don't know what they're doing with 13:46:06
21 LiDAR. 13:46:07

22 A. With LiDAR in general. Okay. 13:46:09

23 Q. Well, let me state it this way: You don't 13:46:11
24 know why they're on this list of "Defendants' 13:46:15
25 Officers, Directors, and Employees with LiDAR-Related 13:46:17

1 says, "List of defendant suppliers and consultants who 13:49:40
2 have LiDAR-related responsibilities or projects"? 13:49:42
3 A. Okay. 13:49:43
4 Q. Is [REDACTED] listed here? 13:49:59
5 A. Nope. 13:49:59
6 Q. So [REDACTED] is a LiDAR supplier that's not 13:50:03
7 listed on this list of defendant suppliers? 13:50:07
8 MR. KIM: Objection; form. 13:50:10
9 THE WITNESS: Yes. 13:50:11
10 BY MR. JAFFE: 13:50:11
11 Q. What about [REDACTED] is that on here? 13:50:15
12 A. Nope. 13:50:22
13 Q. Okay. And what about [REDACTED] is that on 13:50:29
14 here? 13:50:29
15 A. Nope. 13:50:34
16 Q. And then I think [REDACTED] actually is on here; 13:50:38
17 right? 13:50:38
18 A. Yes. 13:50:41
19 Q. And what are you guys doing with [REDACTED] 13:50:45
20 A. I believe -- I believe we're buying some demo 13:50:51
21 units or some early evaluation units. 13:50:54
22 Q. You're working with them on designing a 13:50:58
23 custom LiDAR; right? 13:50:59
24 A. They're developing a new LiDAR. I don't know 13:51:02
25 that it's custom for us or just -- I don't know that 13:51:05

1 detail.

2 Q. Are you providing them any Uber confidential 13:51:09
3 information.

4 A. I'm not aware of that happening, no. 13:51:12

5 Q. So there is no Uber confidential information 13:51:16
6 that is going from Uber to [REDACTED] is that true? 13:51:21

7 A. I'm not aware of any. 13:51:23

8 MR. JAFFE: Let's mark -- where is that thing? 13:51:31
9 This one? No. It's this one. This is going to be 13:51:45
10 Exhibit . . . 13:51:48

11 THE REPORTER: 154. 13:51:50

12 MR. JAFFE: -- 154. 13:51:50

13 Thank you. 13:51:52

14 (Plaintiff's Exhibit 154 was marked.) 13:52:13

15 BY MR. JAFFE:

16 Q. So I've marked as Exhibit 159 [sic] a 13:52:15
17 document that's heavily redacted. But I just want to 13:52:17
18 ask --

19 MR. KIM: 159? 13:52:21

20 MR. JAFFE: Yeah, Exhibit 159. 13:52:24

21 MR. KIM: 154. 13:52:25

22 MR. JAFFE: Oh, my handwriting is off. 13:52:27

23 BY MR. JAFFE: 13:52:27

24 Q. 154 is a document that's heavily redacted. 13:52:31

25 Is this an e-mail exchange with [REDACTED] 13:52:36

1	A. If it is, I'm not aware.	13:52:43
2	Q. You can't tell because of the redaction;	13:52:44
3	right?	13:52:45
4	A. I'm also looking at the names. The name	13:52:50
5	addresses. And I can't say it's an exchange with	13:52:54
6	████████ because I see only Uber or Uber ATC employees.	13:52:59
7	Q. Right.	13:52:59
8	But if you look on the earlier e-mails, the	13:53:05
9	other e-mails are redacted.	13:53:06
10	A. Oh, okay. All right.	13:53:10
11	Q. So, for example, if you go to the page 12132.	13:53:17
12	Do you see that?	
13	A. 12132, yes.	13:53:20
14	Q. "Hey, Anthony, been trying to reach you a	13:53:23
15	while via text."	13:53:24
16	A. Okay.	13:53:25
17	Q. You were cc'd on this; right?	13:53:27
18	A. Yes.	13:53:27
19	Q. What is this e-mail about?	13:53:29
20	(Witness reviews document.)	13:54:11
21	A. I'm not 100 percent sure. Yeah, I'm not sure	13:54:28
22	who [sic] this is about.	13:54:30
23	Q. It's hard to tell with the redactions, huh?	13:54:34
24	A. It is.	13:54:35
25	Q. Yeah, I agree with you.	13:54:37

1	A. Yeah, I don't recall.	13:54:47
2	Q. And so just turning to the first page,	13:54:49
3	there's an e-mail from Mr. Levandowski, and you're on	13:54:52
4	the cc line.	13:54:53
5	A. Yeah.	13:54:53
6	Q. The entire e-mail is redacted.	13:54:58
7	What is Mr. Levandowski talking about in this	13:55:01
8	e-mail?	13:55:02
9	A. I don't recall.	13:55:03
10	Q. You don't recall this e-mail at all?	13:55:05
11	A. I don't recall this e-mail.	13:55:06
12	Q. So it's possible that Mr. -- who knows what	13:55:08
13	Mr. Levandowski would be talking about?	13:55:10
14	A. Who knows.	13:55:11
15	Q. Okay. Put that aside.	13:55:13
16	A. Okay.	13:55:14
17	Q. Let's go back to your opening declaration,	13:55:31
18	which is Exhibit 151. And if you can look at	13:55:41
19	paragraph 15, please.	13:55:45
20	Do you see that you refer to an Exhibit B	13:55:58
21	here?	13:56:00
22	A. Yes.	13:56:01
23	Q. And what are you saying that Exhibit B is?	13:56:05
24	A. Exhibit B is a file that lays out the X,Y and	13:56:28
25	rotation coordinates for each of the laser diodes on	13:56:35

1 [REDACTED] while the final dimensions it would 13:56:40
2 be used for fiducial-based diode placement is not yet 13:56:53
3 defined for [REDACTED] 13:56:56
4 MR. JAFFE: Let's mark as Exhibit 155 a document 13:57:01
5 entitled, "Exhibit B." 13:57:03
6 BY MR. JAFFE:
7 Q. It looks like you have it. 13:57:06
8 A. Yes. 13:57:06
9 Q. Did you bring your declaration with you? 13:57:08
10 A. Yeah. 13:57:09
11 Q. Why don't we look at your copy then, but 13:57:11
12 we'll just mark this for the record so we have a 13:57:14
13 complete record. 13:57:15
14 MR. JAFFE: Just for the record, I'm marking 13:57:19
15 Exhibit B as 155. And Mr. Haslim is looking at his 13:57:24
16 own copy. 13:57:25
17 (Plaintiff's Exhibit 155 was marked.) 13:57:26
18 BY MR. JAFFE: 13:57:26
19 Q. So on the top right-hand side, there's a 13:57:32
20 little picture of a transmit board; right? 13:57:33
21 A. Right. 13:57:33
22 Q. And that's an image of one of the Fuji 13:57:37
23 transmit boards; correct? 13:57:38
24 A. Correct. 13:57:38
25 Q. And the table below, that includes some X,Y 13:57:44

1 and theta values for each of the diodes on the 13:57:50
2 transmit board depicted there? 13:57:53
3 A. Yes. 13:57:53
4 Q. So what does [REDACTED] refer to in this 13:57:58
5 chart? 13:57:59
6 A. In this chart, the term [REDACTED] labels 13:58:06
7 [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 13:58:21
10 Q. And why are you providing [REDACTED] [REDACTED]
[REDACTED] 13:58:27
12 A. I believe the person who made this file 13:58:34
13 provided [REDACTED] [REDACTED]
[REDACTED] -- that's the 13:58:44
15 wrong term -- so that [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] And these dimensions never left the 13:59:06
20 document. 13:59:07
21 Q. "These dimensions never left the document," 13:59:11
22 what do you mean? 13:59:12
23 A. The dimensions labeled [REDACTED] remain in 13:59:15
24 this document even as new information is being added 13:59:19
25 [REDACTED] 13:59:23

1 Q. So the X and Y data here shows -- [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] right? 13:59:35

4 A. Yes. 13:59:36

5 Q. So the X and Y data for [REDACTED] shows 13:59:39
6 [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] right? 13:59:48

9 A. Right.

10 Q. Okay. And you said the person who created 13:59:56
11 this document. 13:59:57

12 Who are you referring to? 13:59:59

13 A. This document would have been created by 14:00:03
14 Gaetan Pennecot. 14:00:05

15 Q. And why would Mr. Pennecot include [REDACTED] [REDACTED]
[REDACTED] in this document? 14:00:13

17 A. Gaetan did the original [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] And he was responsible 14:00:27
20 for [REDACTED] [REDACTED]
[REDACTED]. This information would 14:00:36
22 then have been given to our electrical engineer, who 14:00:38
23 did [REDACTED] for this. 14:00:40

24 Q. So that doesn't answer my question. 14:00:43
25 Why is [REDACTED] 14:00:45

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1 [REDACTED] [REDACTED] [REDACTED]

2 [REDACTED] 14:00:49

3 A. I'm sorry. I don't think I was clear before. 14:00:53

4 When Gaetan designed the outline of this 14:00:56

5 board and specified [REDACTED] [REDACTED]

6 [REDACTED] [REDACTED]

7 [REDACTED] [REDACTED]

8 [REDACTED] [REDACTED]

9 [REDACTED] [REDACTED]

10 [REDACTED] 14:01:17

11 Q. So the original idea was [REDACTED] [REDACTED]

12 [REDACTED] 14:01:22

13 A. No. 14:01:22

14 Q. So then let me ask my question again then. 14:01:25

15 What is the point of including [REDACTED] [REDACTED]

16 [REDACTED] -- in this chart? 14:01:30

17 A. This information could have been provided to 14:01:36

18 the electrical engineer so that [REDACTED] [REDACTED]

19 [REDACTED] 14:01:43

20 And if he hasn't [REDACTED] [REDACTED]

21 [REDACTED] [REDACTED]

22 [REDACTED] [REDACTED] 14:01:55

23 Q. Why do you think he did that? 14:01:57

24 A. He needs to [REDACTED], that's as 14:02:00

25 good as -- better than an outline of a board which is 14:02:03

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1 A. These are six decimal places. 14:06:06
2 Q. Is that pretty accurate? 14:06:08
3 A. It's an unnecessary number of decimals. This 14:06:10
4 goes to nanometers. 14:06:13
5 Q. Yeah. So this is talking about aligning the 14:06:16
6 diodes to the nanometer; is that fair? 14:06:18
7 A. No. 14:06:18
8 Q. No? I thought you said it goes to 14:06:21
9 nanometers. 14:06:22
10 A. It goes to nanometers, but I don't think 14:06:24
11 anybody was under the impression that we're actually 14:06:25
12 in a position to get something to a nanometer scale.
13 Q. But that's what this document is listing? 14:06:28
14 A. This document lists the ideal dimension, yes, 14:06:32
15 down to the nanometer. 14:06:34
16 Q. Got it. 14:06:35
17 We talked about X. 14:06:38
18 Y, that talks about the millimeters 14:06:41
19 difference from the fiducial to A1 on the -- in the 14:06:48
20 vertical axis; right? 14:06:50
21 A. Right. 14:06:50
22 Q. [REDACTED] 14:06:56
23 [REDACTED] 14:07:03
24 MR. KIM: Objection; form. 14:07:06
25 THE WITNESS: [REDACTED] 14:07:09

1 [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] [REDACTED] 14:07:36

8 BY MR. JAFFE:

9 Q. The theta column here, what does that tell 14:07:42
10 us? 14:07:42

11 A. That tells us, relative to some zero angle on 14:07:50
12 this board, which we can presume is either vertical or 14:07:55
13 horizontal, the ideal placement angle for the laser 14:08:00
14 diode on the board. 14:08:02

15 Q. We're just talking about A again, Board A. 14:08:11

16 Which is the [REDACTED] [REDACTED]
[REDACTED] 14:08:22

18 A. As the light is projected out past the 14:08:26
19 sensor, the [REDACTED] 14:08:32

20 Q. All right. Am I correct then that [REDACTED] [REDACTED]
[REDACTED] 14:08:44

22 A. Yes, that's correct. 14:08:45

23 Q. Okay. So is it fair to say that [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 14:09:01

1 A. In this coordinate system, that's true. 14:09:04
2 Q. Referring to Board A, the diodes go from -- 14:09:15
3 [REDACTED] [REDACTED]
4 [REDACTED] 14:09:23
5 A. Yes. 14:09:23
6 Q. Okay. 14:09:27
7 MR. JAFFE: So what I'd like to do is mark as a 14:09:36
8 new exhibit Exhibit 156. 14:09:41
9 (Plaintiff's Exhibit 156 was marked.) 14:10:07
10 BY MR. JAFFE:
11 Q. I'm going to hand you a calculator as well. 14:10:10
12 A. Okay. 14:10:11
13 Q. So what we have here is a reproduction, if we 14:10:17
14 cut and paste correctly, which I think that we did, of 14:10:21
15 the data that's here for Board A in Exhibit B to your 14:10:27
16 declaration. And you can see on the right that I've 14:10:33
17 left open something called delta Y. 14:10:36
18 A. Yes. 14:10:37
19 Q. Do you see that? 14:10:38
20 A. Yes. 14:10:38
21 Q. And do you understand what I'm trying to 14:10:41
22 refer to here by "delta Y"? 14:10:43
23 A. Yes. I'll go ahead and identify what I 14:10:46
24 believe you intend by "delta Y." 14:10:48
25 Q. But before you do, I will tell you exactly 14:10:50

1 starting one, so that can be blank. And you can start 14:12:07
2 from the next one.

3 A. Perfect. So I will calculate these. 14:12:11

4 (Witness performs calculations.) 14:12:11

5 A. Okay. 14:16:45

6 Q. Thank you. You're handing this to me for me 14:16:48
7 to look at. All right. I'm going to hand it back to 14:16:59
8 you. 14:16:59

9 Exhibit 156 now reflects you've penciled in 14:17:03
10 the delta Y here. 14:17:07

11 In looking at this completed table, would you 14:17:13
12 agree that the delta Y values [REDACTED] [REDACTED]

[REDACTED] 14:17:24

14 MR. KIM: Objection; form. 14:17:24

15 THE WITNESS: Yes, I would agree that the delta Y 14:17:31
16 values [REDACTED] [REDACTED]

[REDACTED] [REDACTED] 14:17:41

19 BY MR. JAFFE: 14:17:41

20 Q. Okay. In other words, [REDACTED] [REDACTED]

[REDACTED] [REDACTED] 14:17:52

23 MR. KIM: Objection; form. 14:17:55

24 THE WITNESS: It's true, the delta Y, [REDACTED] [REDACTED]

[REDACTED] 14:18:01

1 [REDACTED] --
2 THE REPORTER: I'm sorry, I'm sorry. It's
3 true . . .
4 THE WITNESS: [REDACTED] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] 14:18:24
8 BY MR. JAFFE: 14:18:24
9 Q. And as we talked about before, as the 14:18:30
10 [REDACTED] [REDACTED]
[REDACTED]
[REDACTED] right? 14:18:41
13 MR. KIM: Objection; form. 14:18:43
14 THE WITNESS: Yes, we agreed -- I agree that the 14:18:46
15 [REDACTED] [REDACTED]
[REDACTED]
[REDACTED] 14:19:01
18 BY MR. JAFFE: 14:19:01
19 Q. So referring to this [REDACTED], you 14:19:05
20 would agree that [REDACTED] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] 14:19:20
25 MR. KIM: Objection; form. 14:19:25

1	THE WITNESS: Yes.	14:19:25
2	BY MR. JAFFE:	
3	Q. Okay. You can put that aside, please.	14:19:30
4	We talked about Max Levandowski earlier. You	14:19:36
5	said he was on your team.	14:19:38
6	A. Yes.	14:19:40
7	Q. What does he do?	14:19:41
8	A. He's a mechanical engineer. He designs the	14:19:47
9	optical cavity that the lenses and the lasers and	14:19:52
10	detector boards attach to.	14:19:55
11	Q. Is what is his LiDAR experience?	14:19:58
12	A. I am not aware of any LiDAR experience prior	14:20:01
13	to working for Otto and Uber.	14:20:04
14	Q. Did he know a lot about LiDAR when he	14:20:07
15	started?	14:20:07
16	MR. KIM: Objection; form.	14:20:08
17	THE WITNESS: I don't know.	14:20:09
18	BY MR. JAFFE:	14:20:09
19	Q. He works for you; right?	14:20:10
20	A. He works for me. He worked for Otto before I	14:20:14
21	joined.	14:20:15
22	Q. When you joined, did he -- was he	14:20:18
23	sufficiently educated about how LiDAR works?	14:20:21
24	MR. KIM: Objection; form.	14:20:22
25	THE WITNESS: He seemed sufficiently educated as a	14:20:26

1	mechanical engineer.	14:20:27
2	BY MR. JAFFE:	14:20:27
3	Q. So that wasn't really my question.	14:20:29
4	A. Yes.	14:20:30
5	Q. So --	14:20:31
6	A. I didn't quiz him on his LiDAR expertise, but	14:20:35
7	at the same time, I'll grant you that I was not aware	14:20:38
8	of any LiDAR expertise in his background prior to	14:20:42
9	Otto.	14:20:43
10	Q. Why -- well, actually, let me back up.	14:20:58
11	Do you know if Max Levandowski and Anthony	14:21:01
12	Levandowski are -- they're brothers; right?	14:21:04
13	A. That's my understanding.	14:21:05
14	Q. Do you know if they're close?	14:21:07
15	MR. KIM: Objection; form.	14:21:08
16	THE WITNESS: I don't know how close they are.	14:21:12
17	BY MR. JAFFE:	14:21:12
18	Q. Do you know about any conversations that they	14:21:13
19	had regarding LiDAR?	
20	MR. KIM: Same objection.	14:21:14
21	THE WITNESS: No.	14:21:15
22	BY MR. JAFFE:	14:21:15
23	Q. And what does Max Levandowski -- excuse me --	14:21:17
24	do at Otto today?	14:21:23
25	A. At Uber today?	14:21:25

1	Q. (Nods head affirmatively.)	14:21:25
2	A. He continues to be the mechanical engineer	14:21:29
3	responsible for designing the optical cavity that	14:21:32
4	mounts the lenses, the laser transmit block and the	14:21:36
5	receiver boards.	14:21:37
6	Q. Did he come up with the optical cavity design	14:21:41
7	for Fuji?	14:21:42
8	A. In as much as that responsibility refers	14:21:50
9	to --	14:21:50
10	MR. KIM: Objection; form.	14:21:53
11	THE REPORTER: I'm sorry.	14:21:53
12	THE WITNESS: Inasmuch as that responsibility	14:21:55
13	refers to designing a mechanical housing, yes. He	14:22:01
14	designed that for Fuji.	14:22:02
15	BY MR. JAFFE:	14:22:02
16	Q. Who came up with the optical cavity design	14:22:05
17	for Fuji?	14:22:06
18	MR. KIM: Objection; form.	14:22:11
19	THE WITNESS: The optical cavity design for Fuji	14:22:14
20	is related to the lens and the lens requirements. So	14:22:19
21	Gaetan plays a responsibility for that. As a	14:22:23
22	mechanical element in terms of mounting and housing	14:22:27
23	those features, those components, Max Levandowski is	14:22:29
24	responsible for that aspect.	14:22:31
25	BY MR. JAFFE:	14:22:31

1 Q. So it's Mr. Pennecot and Mr. Max Levandowski 14:22:34
2 who came up with the optical cavity design for Fuji; 14:22:39
3 is that fair? 14:22:40
4 MR. KIM: Objection; form. 14:22:40
5 THE WITNESS: My hesitancy is I'm trying to decide 14:22:51
6 in my mind whether the transmit and receive components 14:22:54
7 also play a part -- are considered part of the optical 14:23:00
8 cavity. I think they fairly should be considered part
9 of the optical cavity.
10 So then I also add Will Treichler, Florin 14:23:05
11 Ignatescu contributing to the design of the 14:23:09
12 optical cavity for the Fuji, or coming up with it. 14:23:13
13 I would claim some responsibility as well because 14:23:22
14 I'm looking at the designs that these engineers 14:23:25
15 are generating. I could have contributed some 14:23:28
16 aspect as well. 14:23:30
17 BY MR. JAFFE: 14:23:30
18 Q. You could have or you did? 14:23:31
19 A. I'm sure I had some influence, yes. 14:23:35
20 Q. Going back to Max Levandowski, do you 14:23:43
21 know -- he and Anthony, do they live together? 14:23:46
22 A. I don't know. 14:23:48
23 Q. Do you know how much time they spend together 14:23:52
24 outside of the office? 14:23:53
25 A. I don't know that. 14:23:54

1 and Otto were already talking at this time? 14:37:43
2 A. Yes. Then this would be indicative of their 14:37:48
3 discussion. 14:37:48
4 Q. Okay. So going back to page 10. 14:37:53
5 A. Yes. 14:37:54
6 Q. Do you see there's a section entitled, [REDACTED] [REDACTED]
[REDACTED] 14:38:04
8 A. Yes. 14:38:06
9 [REDACTED] [REDACTED] 14:38:09
10 A. No, I'm not familiar with this page. 14:38:11
11 Q. So you're -- well, you said you're not 14:38:15
12 familiar with this page. I'm referring -- 14:38:16
13 Are you familiar with [REDACTED] [REDACTED]
[REDACTED] 14:38:22
15 A. So I was not aware of this design, especially 14:38:41
16 with this date. No, I'm not familiar with this 14:38:45
17 design, actually. 14:38:46
18 Q. Do you know what the [REDACTED] referred to 14:38:48
19 here refers to? 14:38:49
20 A. To my knowledge, the term [REDACTED] has 14:38:55
21 been applied to be synonymous, more or less, with an 14:38:59
22 optical cavity. 14:39:00
23 Q. Do you know whether Mr. Levandowski had any 14:39:06
24 input into this [REDACTED] 14:39:09
25 A. I don't know. 14:39:09

1 Q. In this concept here, you would agree that 14:39:18
2 the PCBs are arranged along a straight-edge board? 14:39:25
3 MR. KIM: Objection; form. 14:39:26
4 THE WITNESS: No, that's -- this appears to be a 14:39:29
5 schematic, and it doesn't tell me anything about the 14:39:32
6 plan view of the board. 14:39:34
7 BY MR. JAFFE: 14:39:34
8 Q. Would you agree that the -- what apparently 14:39:41
9 are the emitters are [REDACTED] 14:39:44
10 MR. KIM: Objection; form. 14:39:48
11 THE WITNESS: Let me see. 14:39:49
12 (Witness reviews document.)
13 THE WITNESS: It's not clear if they are [REDACTED] [REDACTED]
14 [REDACTED] They look [REDACTED] from what's 14:39:59
15 clearly a simple type of PowerPoint graphic, but it's 14:40:06
16 not clear if they say one degree native if they could 14:40:10
17 actually achieve [REDACTED] [REDACTED]
18 [REDACTED] 14:40:17
19 BY MR. JAFFE:
20 Q. The last bullet says, [REDACTED] [REDACTED]
21 [REDACTED] 14:40:23
22 Do you see that? 14:40:24
23 A. I see that. 14:40:24
24 Q. What does [REDACTED] refer to there? 14:40:27
25 MR. KIM: Objection; form. 14:40:28

1 THE WITNESS: I can't be sure what was meant 14:40:31
2 exactly; but given what I know, [REDACTED] [REDACTED]
[REDACTED] [REDACTED]. 14:40:40
3 BY MR. JAFFE: 14:40:40
4 Q. We're talking about the Y delta again? 14:40:43
5 MR. KIM: Objection; form. 14:40:43
6 THE WITNESS: Not necessarily. 14:40:45
7 BY MR. JAFFE: 14:40:45
8 Q. You said, "Not necessarily." 14:40:47
9 What do you mean by that? 14:40:48
10 A. My guess would have been angular spacing. 14:40:52
11 Q. In the top part of this page, it talks about 14:41:06
12 [REDACTED] [REDACTED] [REDACTED]
13 [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 14:41:12
14 A. I see that. 14:41:14
15 Q. That's the [REDACTED]; right? 14:41:17
16 A. Yes. 14:41:19
17 Q. [REDACTED] 14:41:24
18 this is different than the Fuji design; right? 14:41:27
19 MR. KIM: Objection; form. 14:41:32
20 THE WITNESS: There's not a lot of detail in here; 14:41:35
21 but it's not the Fuji design yet, that's for sure. 14:41:39
22 BY MR. JAFFE: 14:41:39
23 Q. And you helped start the Fuji project, and 14:41:41
24 you're not familiar with this Plan B at all; right? 14:41:44

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1	A. Right.	14:41:44
2	Q. So to your knowledge, what's described here	14:41:48
3	as Plan B isn't the basis for the Fuji design?	14:41:52
4	MR. KIM: Objection; form.	14:41:55
5	THE WITNESS: I am not aware of a link between	14:41:59
6	this Plan B in this document and the Fuji design.	14:42:04
7	BY MR. JAFFE:	14:42:04
8	Q. And you would be in a position to know;	14:42:08
9	right?	14:42:09
10	MR. KIM: Objection; form.	14:42:11
11	THE WITNESS: I would have to make that	14:42:13
12	presumption. And it's just a presumption.	14:42:15
13	BY MR. JAFFE:	14:42:15
14	Q. In your job, you would be in a position to	14:42:18
15	know that; right?	14:42:18
16	MR. KIM: Objection; form.	14:42:25
17	THE WITNESS: I would expect to know that.	14:42:26
18	MR. JAFFE: Let's take a break.	14:42:32
19	THE VIDEOGRAPHER: We are off the record at 2:42	14:42:36
20	p.m.	14:42:36
21	(Recess taken.)	14:42:36
22	THE VIDEOGRAPHER: We are back on the record at	14:55:55
23	2:56 p.m.	14:55:57
24	BY MR. JAFFE:	14:55:57
25	Q. Have you discussed the subject matter of your	14:56:03

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1 testimony during any of the breaks today? 14:56:05

2 A. Nothing in terms of like what we said in this 14:56:10

3 testimony. 14:56:11

4 Q. What does that mean? 14:56:13

5 A. That means the legal team may have advised me 14:56:19

6 on procedural matters, general terms without 14:56:23

7 referencing the actual content of our discussion. 14:56:26

8 Q. What did they tell you? 14:56:27

9 MR. KIM: Objection. 14:56:27

10 Going to instruct you not to answer on the 14:56:31

11 grounds of attorney-client privilege. 14:56:33

12 BY MR. JAFFE: 14:56:33

13 Q. Did your legal team tell you how to testify 14:56:36

14 after these meetings? 14:56:37

15 MR. KIM: You can answer that yes or no. 14:56:39

16 THE WITNESS: Could you be clear by what you mean 14:56:41

17 by "how to testify"? 14:56:42

18 BY MR. JAFFE:

19 Q. I don't think I can be any clearer. 14:56:46

20 A. Like what to say? 14:56:47

21 Q. I'm trying to understand what the legal team 14:56:51

22 told you in terms of general terms, procedural 14:56:55

23 matters, which is what you said. 14:56:57

24 What did they tell you? 14:56:58

25 MR. KIM: Instruct you not to reveal any 14:57:00

1	privileged conversations.	14:57:11
2	THE WITNESS: Are you instructing me not to	14:57:13
3	answer?	14:57:14
4	MR. KIM: You can answer his prior question yes or	14:57:17
5	no.	14:57:17
6	THE WITNESS: If your question is, did they tell	14:57:24
7	me what to say, no. Did they tell me how to testify,	14:57:28
8	no.	14:57:29
9	BY MR. JAFFE:	14:57:29
10	Q. When you said that they told you things about	14:57:31
11	general things and procedural considerations, what	14:57:34
12	general things did they tell you?	14:57:37
13	MR. KIM: I'm going to instruct you not to answer	14:57:39
14	on the grounds of attorney-client privilege.	14:57:40
15	BY MR. JAFFE:	14:57:40
16	Q. What procedural -- what general terms about	14:57:42
17	your testimony did they tell you?	14:57:45
18	A. Let's see. We discussed how much time is	14:57:52
19	left, something called redirect.	14:57:59
20	Q. What did they talk to you about redirect?	14:58:01
21	MR. KIM: And I'm going to instruct you not to	14:58:05
22	reveal any attorney-client privileged conversations.	14:58:09
23	And I don't think you can answer that without doing	14:58:11
24	so. I'm going to instruct you not to answer.	14:58:14
25	BY MR. JAFFE:	14:58:14

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1	Q.	You talked about redirect on a break? Yes or	14:58:21
2		no?	14:58:21
3	A.	Yes, we talked about the term "redirect."	14:58:24
4	Q.	And what did you talk about redirect?	14:58:28
5	A.	That is a situation where, instead of you,	14:58:33
6		the lawyer on my side of the table is going to ask me	14:58:36
7		questions.	14:58:36
8	Q.	And how did redirect come up in the context	14:58:39
9		of your conversation?	14:58:40
10	A.	In the context of time remaining and that	14:58:45
11		redirect would occur after your allotted time has	14:58:49
12		ended, so it's going to take longer than I might	14:58:54
13		think.	14:58:54
14	Q.	Did Uber's lawyers tell you that they were	14:58:58
15		going to do redirect questions?	14:59:00
16	A.	Yes.	14:59:02
17	Q.	And did they tell you what those questions	14:59:04
18		were going to be about?	14:59:06
19	A.	No.	14:59:07
20	Q.	Did you talk at all about what sort of	14:59:11
21		redirect would happen?	14:59:13
22	A.	No.	14:59:16
23	Q.	What did you talk about about redirect?	14:59:19
24	A.	That they will ask me questions just like you	14:59:24
25		ask me questions and that it's going to take longer	14:59:27

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1 than the hour, approximately, that we have remaining, 14:59:30
2 so not to expect it to be over at that time. 14:59:34
3 Q. What else, in general terms, did you and your 14:59:36
4 lawyers talk about on the breaks? 14:59:38
5 MR. KIM: I'm going to advise you not to reveal 14:59:46
6 any attorney-client privileged communications. 14:59:49
7 THE WITNESS: So I'm not a lawyer. I don't know 14:59:55
8 what is considered attorney-client privilege and what 14:59:58
9 wouldn't be in that context of conversations, so I 15:00:01
10 need to be careful not to answer and disclose 15:00:03
11 something I'm not supposed to say. 15:00:06
12 MR. KIM: Do you need to consult with me about a 15:00:09
13 privilege issue? 15:00:09
14 THE WITNESS: Yes, that would help. 15:00:12
15 MR. KIM: Can we go off the record so he can 15:00:15
16 consult with me on a privilege issue before he answers 15:00:18
17 any further questions about what we discussed? 15:00:20
18 MR. JAFFE: I'll withdraw the question and I'll 15:00:22
19 ask a different question. 15:00:23
20 BY MR. JAFFE: 15:00:23
21 Q. Tell me the substance of your private 15:00:26
22 conferences -- private conferences during the break 15:00:28
23 that you had with Uber's lawyers, all of it. 15:00:32
24 MR. KIM: I'm going to object on the grounds of 15:00:36
25 privilege. 15:00:37

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1 MR. JAFFE: Are you instructing him not to answer? 15:00:41
2 MR. KIM: Instruct him not to answer. 15:00:42
3 MR. JAFFE: Okay. I think you know that's 15:00:47
4 directly contrary to Judge Alsup's order. 15:00:50
5 MR. KIM: Can you clarify that. 15:00:53
6 MR. JAFFE: Judge Alsup's order says no private 15:00:56
7 conferences after testimony begins. 15:00:58
8 MR. KIM: He's testified that we haven't had any 15:01:01
9 private conferences about his testimony. 15:01:03
10 MR. JAFFE: The record speaks for itself. You 15:01:06
11 instructed him not to answer. I'm going to move on. 15:01:09
12 This is going to be Exhibit 158. It's a 15:01:15
13 document entitled UBER00012240. 15:01:19
14 (Plaintiff's Exhibit 158 was marked.) 15:01:37
15 BY MR. JAFFE: 15:01:37
16 Q. This is an e-mail from earlier in March of 15:01:40
17 this year; right -- excuse me, April. 15:01:47
18 A. Thank you. Yes. 15:01:48
19 Q. And on this e-mail is yourself, Anthony 15:01:53
20 Levandowski, Claire Delaunay and Eric Meyhofer; right? 15:01:57
21 A. Yes. 15:01:59
22 Q. What is Claire Delaunay's role at Uber? 15:02:06
23 A. She's a software engineer or software 15:02:08
24 engineering manager. 15:02:10
25 Q. And there's -- on the "To" line, it says, 15:02:13

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1 [REDACTED] 15:02:15
2 Do you see that? 15:02:17
3 A. I see that. 15:02:19
4 Q. Why does it say [REDACTED] there? 15:02:23
5 A. I don't know. 15:02:23
6 Q. And you said, [REDACTED] -- referring to the 15:02:28
7 substance of the e-mail that you wrote, you said, 15:02:30
8 [REDACTED] [REDACTED] 15:02:32
9 What are you referring to? 15:02:33
10 A. I referred to this web link. I can't 15:02:42
11 remember right now what I was looking at. [REDACTED] [REDACTED]
12 [REDACTED] 15:02:54
13 This could be a LiDAR sensor, but clicking on 15:02:59
14 the web link would make it very clear what this was. 15:03:03
15 Q. [REDACTED] that's Anthony Levandowski's 15:03:20
16 address; right? 15:03:20
17 A. I believe it is, yes. 15:03:20
18 Q. So someone had in their address book Anthony 15:03:25
19 Levandowski's e-mail address, but the name was just 15:03:29
20 [REDACTED] 15:03:31
21 A. Apparently. 15:03:31
22 Q. Did you notice that when you received this 15:03:36
23 e-mail? 15:03:36
24 A. No, I did not. 15:03:38
25 Q. Are you aware of whether Mr. Levandowski 15:03:40

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1 Q. But at this time, immediately when you were 15:06:20
2 involved, Mr. Boehmke and Mr. Levandowski were having 15:06:26
3 LiDAR-related discussions; right? 15:06:31
4 MR. KIM: Objection; form. 15:06:38
5 THE WITNESS: It's not -- it's not clear, when it 15:06:40
6 says, [REDACTED] [REDACTED]
7 [REDACTED] meant Scott and Anthony or Scott and somebody 15:06:49
8 else, so I don't know. 15:06:50
9 BY MR. JAFFE: 15:06:50
10 Q. Do you think that's ambiguous? 15:06:52
11 A. I think that's ambiguous. 15:06:54
12 MR. JAFFE: You can set that aside. 15:07:11
13 We're on 158? 15:07:13
14 THE REPORTER: 159. 15:07:15
15 MR. JAFFE: Get it right one of these times. 15:07:18
16 (Plaintiff's Exhibit 159 was marked.) 15:07:35
17 BY MR. JAFFE: 15:07:35
18 Q. In June of 2016, you were working at Otto; 15:07:39
19 right? 15:07:39
20 A. Yes. 15:07:41
21 Q. And do you see, in the second e-mail, there's 15:07:43
22 [REDACTED] [sic]? 15:07:47
23 Do you see that? 15:07:50
24 A. Yes. 15:07:50
25 Q. What is that e-mail list? 15:07:54

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1	A. That should be the list of Otto LiDAR	15:07:59
2	development employees.	15:08:00
3	Q. Who's on that -- well, Mr. Levandowski is on	15:08:01
4	that list; right?	15:08:02
5	A. Okay.	15:08:03
6	Q. I'm asking you.	15:08:03
7	A. I don't know if he's on that list.	15:08:05
8	Q. Well, this e-mail indicates -- because he	15:08:08
9	forwarded an e-mail to that list -- to Mr. Boehmke, it	15:08:11
10	indicates that he's on that list. You would agree	15:08:14
11	with that; right?	15:08:15
12	(Witness reviews document.)	15:08:23
13	A. Yeah, seems that way.	15:08:28
14	Q. So Mr. Levandowski is on the e-mail LISTSERV	15:08:34
15	for the LiDAR development team; right?	15:08:36
16	A. He may have been, yes.	15:08:39
17	Q. He was?	15:08:39
18	A. Okay.	15:08:41
19	Q. No, I'm asking you.	15:08:42
20	He was; right?	15:08:42
21	A. It appears from this e-mail chain, assuming	15:08:45
22	there's nothing deleted from it, that he would have	15:08:48
23	got it from the chain and continued it on.	15:08:51
24	Q. Let me ask you: Do you have any personal	15:08:54
25	knowledge whether Mr. Levandowski was on this e-mail	15:08:56

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1	list or not?	15:08:57
2	A. I don't recall if he was on the list or not.	15:09:00
3	Q. Okay. So sitting here today, you have no	15:09:02
4	personal knowledge whether Mr. Levandowski was on the	15:09:04
5	laser-dev e-mail list; right?	15:09:07
6	A. Sitting here right now, I don't remember if	15:09:10
7	he was on the list.	15:09:11
8	Q. Who else was on that list at this time that	15:09:14
9	you remember?	15:09:15
10	A. I would assume it was the other people	15:09:19
11	developing the LiDAR sensors.	15:09:21
12	Q. And who are those people?	15:09:23
13	A. It would be -- to my expectation, people like	15:09:28
14	Gaetan, Dan Gruver, Daniel Ratner. I don't know if	15:09:38
15	Radu was part of the company at the time. Mike	15:09:55
16	Karasoff. Probably Matt Palomar, Benjamin Becker.	15:10:00
17	That's all I can remember right now. Certainly also	15:10:22
18	could have involved Anthony Levandowski for	15:10:25
19	informative purposes.	15:10:27
20	Q. What about Max?	15:10:28
21	A. I'm sorry. Of course, Max Levandowski as	15:10:30
22	well. Who else am I forgetting? Refer back to my	15:10:41
23	list.	15:10:42
24	Q. For the record, you're looking at Exhibit	15:10:45
25	153; right?	15:10:46

1 Where did the idea to do [REDACTED] [REDACTED]
2 [REDACTED] come from in the Fuji mid-range 15:24:56
3 transmit board design? 15:24:58
4 MR. KIM: Objection; form. 15:25:03
5 THE WITNESS: I think it's a mischaracterization 15:25:04
6 to call it -- the vertical spacing as something that 15:25:08
7 had an idea -- that had an origin as an idea. The 15:25:12
8 fact that [REDACTED] [REDACTED]
9 [REDACTED] is a side effect of the optics 15:25:21
10 in the optical cavity. 15:25:24
11 BY MR. JAFFE: 15:25:24
12 Q. So you can't tell me where it came from, who 15:25:26
13 came up with the idea? 15:25:28
14 A. I'm trying to explain -- I don't think 15:25:31
15 anybody had this idea to [REDACTED] [REDACTED]
16 [REDACTED] on the laser board. 15:25:40
17 I believe that was a side effect that was unavoidable 15:25:46
18 when you take a set of vertical angles, especially if 15:25:51
19 they're nearly or equivalently spaced in terms of 15:25:56
20 angle, and project those onto a curved focal surface. 15:26:01
21 Q. You said it's unavoidable. 15:26:03
22 You worked at Velodyne; right? 15:26:05
23 A. Yes. 15:26:05
24 Q. You didn't do [REDACTED] at 15:26:09
25 Velodyne; right? 15:26:11

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1	MR. KIM: Objection; form.	15:26:12
2	BY MR. JAFFE:	15:26:12
3	Q. In terms of the X and Y positions of the	15:26:15
4	diodes?	15:26:15
5	A. [REDACTED]	[REDACTED] 15:26:20
6	[REDACTED]	[REDACTED]
7	[REDACTED]	[REDACTED]
8	[REDACTED]	[REDACTED]
9	[REDACTED]	[REDACTED]
10	[REDACTED]	[REDACTED]
11	[REDACTED]	[REDACTED]
12	[REDACTED]	[REDACTED]
13	[REDACTED]	[REDACTED]
14	[REDACTED]	[REDACTED]
15	[REDACTED]	[REDACTED]
16	[REDACTED]	[REDACTED]
17	[REDACTED]	[REDACTED]
18	[REDACTED]	[REDACTED]
19	[REDACTED]	[REDACTED]
20	[REDACTED]	[REDACTED]
21	[REDACTED]	[REDACTED]
22	[REDACTED]	[REDACTED]
23	[REDACTED]	[REDACTED]
24	Q. Okay. You worked at Velodyne; right?	15:27:28
25	A. Yes.	15:27:28

1	Q.	And you worked on LiDAR at Velodyne?	15:27:32
2	A.	Yes.	15:27:32
3	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
12	Q.	So I want to again go back to this idea of	15:28:20
13		where did the idea to do the vertical spacing design	15:28:23
14		in Fuji come from? You've said -- you've mentioned	15:28:26
15		the things -- the drivers, but I haven't heard who	15:28:29
16		came up with the idea, where it came from.	15:28:32
17	A.	Again, you're referring, I believe, to a	15:28:34
18		linear vertical -- what we call delta Y; is that	15:28:37
19		correct?	15:28:38
20	Q.	Yes.	15:28:39
21	A.	I have to give you the same answer. It was	15:28:43
22		not a concept that drove the design. There was nobody	15:28:48
23		coming up with the idea to do that. The idea for the	15:28:54
24		vertical angles I would attribute to Scott Boehmke.	15:28:58
25		The lens design I would attribute to Gaetan Pennecot.	15:29:01

1 So what you end up with on the board at that point is 15:29:06
2 just derived from those pieces of information. 15:29:10
3 Q. So talking about the angles, you said when 15:29:13
4 you were at Velodyne, you did constant angles. 15:29:17
5 A. Yes. 15:29:17
6 Q. Why didn't you want to get [REDACTED] [REDACTED]
[REDACTED] when you were working at 15:29:26
8 Velodyne? 15:29:27
9 A. I don't know. 15:29:28
10 Q. You guys didn't come up with that? You 15:29:31
11 didn't think of that idea? 15:29:33
12 [REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] 15:29:50
17 Q. It not something that you guys considered, 15:29:54
18 which is you want [REDACTED] as you 15:29:59
19 go down the road? 15:30:00
20 A. [REDACTED] 15:30:00
21 Q. Yes. 15:30:01
22 A. That was the design that Velodyne ended up 15:30:04
23 with -- 15:30:05
24 Q. Sorry. 15:30:05
25 A. -- still 32.

1 THE WITNESS: [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 15:39:47
4 BY MR. JAFFE: 15:39:47
5 [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 15:39:55
8 MR. KIM: Objection; form. 15:39:56
9 THE WITNESS: No, I'm sorry. Could you be more 15:40:04
10 specific in your question. I'm confused. 15:40:07
11 BY MR. JAFFE: 15:40:07
12 Q. Because I'm short on time, I'll just skip 15:40:10
13 that.
14 Here in this e-mail, these are early 905 15:40:13
15 nanometer discussions. 15:40:15
16 A. Yes.
17 Q. And you wrote, [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 15:40:23
20 Do you see that? 15:40:25
21 A. Yes. 15:40:25
22 Q. So at the time of this e-mail, October 28th, 15:40:30
23 you had the idea of [REDACTED] 15:40:35
24 A. Yes. 15:40:35
25 Q. So at this point, in October, you didn't 15:40:38

1 actually have the idea of [REDACTED] [REDACTED]
[REDACTED] 15:40:44

3 A. True. 15:40:45

4 Q. So this is not evidence of -- this e-mail is 15:40:50

5 not indicative of you coming up with the [REDACTED] [REDACTED]

[REDACTED] right? 15:41:00

7 MR. KIM: Objection; form. 15:41:01

8 THE WITNESS: This is not indicative of the -- or 15:41:04

9 this is not evidential to the [REDACTED] [REDACTED]

[REDACTED] 15:41:12

11 BY MR. JAFFE: 15:41:12

12 Q. And what you were thinking on October 26th 15:41:14

13 [sic] is [REDACTED]; right? 15:41:18

14 A. Yes, on October 28th. 15:41:20

15 Q. Okay.

16 MR. KIM: Jordan, are you wrapping up? 15:41:40

17 MR. JAFFE: I only have a few more minutes, so I 15:41:43

18 think I'm wrapping up. 15:41:45

19 MR. KIM: I think we've got one. 15:41:47

20 BY MR. JAFFE: 15:41:47

21 Q. What documents are you aware of that would 15:42:04

22 show Anthony -- all of Anthony Levandowski's input 15:42:08

23 into Uber and Otto's LiDAR designs? 15:42:12

24 MR. KIM: Objection; form. 15:42:14

25 THE WITNESS: I'm not aware of a list of documents 15:42:17

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1	or a source for documents to go to to document all of	15:42:20
2	his influence.	15:42:21
3	BY MR. JAFFE:	15:42:21
4	Q. How would you find out about how	15:42:25
5	Mr. Levandowski has influenced LiDAR design at Uber	15:42:30
6	and Otto?	15:42:31
7	MR. KIM: Objection; form.	15:42:41
8	THE WITNESS: That's difficult.	15:42:42
9	BY MR. JAFFE:	15:42:42
10	Q. Why?	15:42:44
11	A. When you're looking for all of something and	15:42:49
12	you need to miss nothing, that's not an easy problem	15:42:53
13	to solve. If you look at all the possible sources of	15:42:58
14	influence, I'm not sure they would all be documented.	15:43:01
15	Q. How would you go about trying to find out as	15:43:04
16	much as you could about how Mr. Levandowski has had	15:43:08
17	input into Uber and Otto's LiDAR designs?	15:43:13
18	MR. KIM: Objection; form.	15:43:16
19	THE WITNESS: I suppose I would talk to the	15:43:18
20	various engineers that had LiDAR responsibilities.	15:43:21
21	BY MR. JAFFE:	15:43:21
22	Q. Who?	15:43:22
23	A. Shall we pick up --	15:43:31
24	Q. Would you talk to everyone on this list? Is	15:43:32
25	that the idea?	15:43:33

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1	A. I suppose, yeah, if I'm trying not to miss	15:43:37
2	anything.	15:43:37
3	Q. Where would you look for documents?	15:43:41
4	A. I suppose e-mail.	15:43:43
5	MR. KIM: Can we have the time on the record,	15:43:45
6	please.	15:43:48
7	THE VIDEOGRAPHER: 3 hours and 59 minutes.	15:43:52
8	MR. KIM: Thanks.	15:43:53
9	THE WITNESS: I said e-mail.	15:43:55
10	BY MR. JAFFE:	15:43:55
11	Q. Anything else?	15:43:56
12	A. Not that occurs to me.	15:43:59
13	Q. So if you wanted to figure out as much as you	15:44:03
14	could about Mr. Levandowski's input into Uber and Otto	15:44:08
15	LiDAR, you would talk to everyone on the LiDAR team	15:44:11
16	and you would look at Mr. Levandowski's e-mail and	15:44:15
17	everyone else's e-mail; is that fair?	15:44:17
18	MR. KIM: Objection; form.	15:44:20
19	THE WITNESS: I wouldn't look at everybody's	15:44:23
20	e-mail. I would look at Anthony's e-mail because if	15:44:26
21	he's going to have an influence, I would expect it to	15:44:27
22	come from his account outward, and that's going to	15:44:28
23	limit the search.	15:44:29
24	BY MR. JAFFE:	
25	Q. Is there any -- is there any other source of	15:44:31

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1 documents that you would look at or data, anything? 15:44:34
2 MR. KIM: Objection; form. 15:44:35
3 THE WITNESS: I don't know. I might look for 15:44:48
4 Google docs with his authorship. 15:44:51
5 BY MR. JAFFE: 15:44:51
6 Q. Anything else? 15:44:55
7 A. No. 15:44:56
8 Q. Okay. 15:44:56
9 MR. JAFFE: Well, I think I have run out of time. 15:45:01
10 MR. KIM: Okay. 15:45:06
11 THE REPORTER: Do you want this as 161? 15:45:20
12 MR. KIM: Yes.
13 THE REPORTER: Next number? Okay.
14 MR. JAFFE: I'm going to object --
15 THE REPORTER: Hang on. Let me just write this.
16 MR. KIM: Oh. 1061.
17 THE REPORTER: 161?
18 MR. KIM: You know, I think we're alternating --
19 MR. JAFFE: We have different blocks of exhibits. 15:45:31
20 So his exhibit numbers, they start at 1000; ours start 15:45:35
21 at zero. So I don't know what number you're at. 15:45:36
22 MR. KIM: Actually, can we start at 1060. 15:45:39
23 (Defendants' Exhibit 1060 was marked.) 15:46:05
24 REDIRECT EXAMINATION
25 BY MR. KIM: 15:46:05

1 THE WITNESS: I wasn't sure. I don't recall the 17:28:43
2 strict definition of [REDACTED] [REDACTED]
[REDACTED] 17:28:52
4 BY MR. JAFFE: 17:28:52
5 Q. I see. So if we exclude zero change, if 17:28:55
6 something is [REDACTED] [REDACTED]
[REDACTED] right? 17:29:01
8 MR. KIM: Objection; form. 17:29:04
9 THE WITNESS: I believe so, yes. 17:29:07
10 BY MR. JAFFE: 17:29:07
11 Q. And if we go back and we look at -- I don't 17:29:12
12 have the number in front of me. It's the one where 17:29:14
13 you pencilled out all the changes. 17:29:16
14 A. The changes. 17:29:18
15 Q. The changes, yeah. 17:29:18
16 A. Let's see, this one; right? 17:29:22
17 Q. Not that one. The one that looks like this 17:29:25
18 (indicating). The Fuji data. 17:29:28
19 A. Is that not the one I wrote for you? 17:29:31
20 Q. Yes. It should be over there in that pile. 17:29:36
21 It's just going to be one sheet of paper. 17:29:40
22 MR. KIM: Thank you. 17:29:42
23 (Witness reviews documents.) 17:29:52
24 THE WITNESS: This one? 17:29:53
25 BY MR. JAFFE: 17:29:53

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1 Q. That's it. 17:29:54
2 A. Okay. 17:29:55
3 Q. Do you remember when we were talking about 17:29:56
4 the delta Y column? 17:29:58
5 A. Yes. 17:29:58
6 Q. Does the delta Y column -- I guess we'll say, 17:30:03
7 [REDACTED] 17:30:10
8 MR. KIM: Objection; form. 17:30:14
9 THE WITNESS: Yes, it appears to [REDACTED]
[REDACTED] 17:30:17
11 BY MR. JAFFE: 17:30:17
12 Q. So the difference between [REDACTED] [REDACTED]
[REDACTED] is immaterial to what we were talking 17:30:23
14 about in Exhibit 156; right? 17:30:25
15 MR. KIM: Objection; form. 17:30:26
16 THE WITNESS: I can say that the delta Y column 17:30:31
17 appears to be [REDACTED] [REDACTED]
[REDACTED] yes. 17:30:35
19 BY MR. JAFFE: 17:30:35
20 Q. You talked about [REDACTED] with your 17:30:38
21 counsel. 17:30:39
22 Do you remember that? 17:30:40
23 A. Yes. 17:30:40
24 Q. And you said that you reuse some of the parts 17:30:42
25 from [REDACTED] in the Fuji design; is that right? 17:30:45

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1	A. Yes.	17:30:46
2	Q. Is that common to reuse parts from old	17:30:49
3	projects?	17:30:50
4	MR. KIM: Objection; form.	17:30:53
5	THE WITNESS: Depends what you mean by "common."	17:30:57
6	Can it be done? Certainly. Is it done? I've seen it	17:31:01
7	done, yeah.	17:31:02
8	BY MR. JAFFE:	17:31:02
9	Q. Is it something you've seen happen fairly	17:31:04
10	regularly?	17:31:05
11	MR. KIM: Objection; form.	17:31:06
12	THE WITNESS: Again, I don't want to try to	17:31:09
13	qualify the rate of currents, but I have seen it done	17:31:13
14	before.	17:31:14
15	BY MR. JAFFE:	17:31:14
16	Q. Let me ask it this way: Reusing parts from	17:31:15
17	old projects is not uncommon; right?	17:31:18
18	MR. KIM: Objection; form.	17:31:19
19	THE WITNESS: It's not very uncommon.	17:31:21
20	BY MR. JAFFE:	17:31:21
21	Q. And was [REDACTED] -- how would you describe	17:31:25
22	what happened with that project?	17:31:27
23	A. I would describe it as a LiDAR sensor	17:31:35
24	development that started probably before I joined	17:31:39
25	Otto, made some progress in designing an FAC lens,	17:31:46

1	THE WITNESS: No.	17:35:55
2	BY MR. JAFFE:	
3	Q. So Spider, you're never going to use it	17:36:02
4	again; right?	17:36:03
5	A. I don't have any intention of reusing it	17:36:05
6	again right now.	17:36:06
7	Q. That's not my question. My question is, Uber	17:36:09
8	is never going to use Spider; right?	17:36:12
9	A. You're asking if the company is going to do	17:36:18
10	something in the future?	17:36:20
11	Q. That's right.	17:36:20
12	A. I don't know.	17:36:21
13	Q. So sitting here today, you can't tell me	17:36:24
14	whether Uber is going to use Spider in the future?	17:36:27
15	A. No. I can only tell you my intentions right	17:36:31
16	now.	17:36:31
17	Q. All right. You mentioned Fuji. Oh, I'm	17:36:47
18	sorry, going back to Spider.	17:36:50
19	Why save the parts if you're never going to	17:36:53
20	use it?	17:36:54
21	A. That's a good question.	17:36:57
22	Q. Why didn't you throw it away?	17:37:00
23	A. I don't know if we've thrown anything away.	17:37:03
24	I don't know. It should have, could have easily been	17:37:05
25	recycled, yeah.	17:37:07

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1	Q.	So you don't know why you kept it?	17:37:10
2	A.	Just because we didn't throw it away, as far	17:37:13
3		as I know.	17:37:14
4	Q.	So sitting here today, again, you can't tell	17:37:19
5		me why you kept the Spider; right?	17:37:21
6	A.	Yes.	17:37:26
7	Q.	Okay. I want to ask about your supplemental	17:37:42
8		declaration that you went into detail with with your	17:37:46
9		counsel. And let's start with page 11. And there's	17:38:07
10		Figures 8A and 8B here.	17:38:09
11		Do you see that?	17:38:10
12	A.	I see that.	17:38:11
13	Q.	And during your testimony by your counsel,	17:38:13
14		you said -- you referred to these [REDACTED], and you	17:38:17
15		said whoever did these letters.	17:38:21
16	A.	Um-hum.	
17	Q.	You didn't prepare 8A and 8B, did you?	17:38:28
18	A.	No.	17:38:28
19	Q.	Who prepared 8A and 8B?	17:38:31
20	A.	Counsel.	17:38:33
21	Q.	Who?	17:38:34
22	A.	Jackie Choy [sic], I believe.	17:38:39
23	Q.	So Uber's lawyers prepared this and sent this	17:38:43
24		to you; is that right?	17:38:44
25	A.	Yes.	17:38:45

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1 Q. And you signed it without actually checking 17:38:47
2 it was accurate? 17:38:49
3 A. Whoa. I looked at these numbers. 17:38:52
4 Q. But you didn't check what you did today 17:38:54
5 before you signed this declaration, did you? 17:38:59
6 A. What do you mean? Identifying, double 17:39:02
7 checking the [REDACTED] 17:39:04
8 Q. Yes. 17:39:04
9 A. I did check that. 17:39:06
10 Q. So why today did you need to check it again? 17:39:09
11 A. I like to be careful. 17:39:11
12 Q. You like to be careful? 17:39:12
13 A. Yeah. I want to be sure we can show the [REDACTED]
[REDACTED] that they matched. 17:39:19
14 Q. Did you know when you signed your declaration 17:39:22
15 whether these actually matched every single angle and 17:39:26
16 every single board? 17:39:27
17 A. Yes, I believe I did. 17:39:28
18 Q. What do you mean you believe you did? 17:39:31
19 A. To my recollection, I checked [REDACTED]
[REDACTED] And I checked the 17:39:42
20 initial [REDACTED] and knew that they would follow the 17:39:46
21 same pattern so I didn't check every single angle. 17:39:50
22 Q. How many of these did you actually check 17:39:52
23 yourself before you signed your declaration? 17:39:55

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1 A. I remember at least checking the initial [REDACTED] [REDACTED]
[REDACTED] 17:40:04

3 Q. So you checked about six out of the 64; is 17:40:08
4 that fair? 17:40:09

5 A. Yeah. 17:40:09

6 Q. And the rest are purely from counsel; you're 17:40:12
7 just relying on them? 17:40:14

8 A. Not exactly. 17:40:16

9 Q. You didn't check. 17:40:19

10 How did you know it was accurate? 17:40:21

11 A. How would the pattern change? 17:40:24

12 Q. I don't know. It's your declaration. 17:40:26

13 A. I understand. From my understanding, the 17:40:30
14 pattern is consistent in the letters. So once you 17:40:35
15 start the pattern properly, it's going to finish out 17:40:39
16 properly. 17:40:40

17 Q. Let's go to the next page, page 12. 17:40:42

18 Who prepared this table? 17:40:44

19 A. Counsel for Uber. 17:40:51

20 Q. And you had to double check it here at your 17:40:54
21 deposition; you didn't know whether it was accurate 17:40:55
22 when you signed it, did you? 17:40:57

23 MR. KIM: Objection; form. 17:40:58

24 THE WITNESS: I believe I checked that before as 17:41:00
25 well. 17:41:01

1	BY MR. JAFFE:	17:41:01
2	Q. You did? How many?	17:41:03
3	A. I don't recall. Some.	17:41:14
4	Q. How many?	17:41:16
5	A. I would have checked first sets of angles. I	17:41:25
6	don't know.	17:41:25
7	Q. I'm not asking what you would have done. I'm	17:41:28
8	asking what you did.	17:41:29
9	A. I don't remember what I did.	17:41:30
10	Q. You don't remember checking any of these, do	17:41:33
11	you?	17:41:33
12	MR. KIM: Objection; form.	17:41:34
13	THE WITNESS: That's not true.	17:41:35
14	BY MR. JAFFE:	17:41:35
15	Q. So you checked one?	17:41:36
16	MR. KIM: Objection; form.	17:41:38
17	THE WITNESS: I specifically was checking those	17:41:40
18	that had the [REDACTED] degree, and I was specifically	17:41:44
19	checking those that began the pattern as well.	17:41:47
20	BY MR. JAFFE:	17:41:47
21	Q. So you checked probably, what, five or six?	17:41:50
22	A. Should be at least six, was at least six.	17:41:54
23	Q. At least six. You don't remember checking	17:41:56
24	anymore on this one?	17:41:59
25	A. I don't remember checking more.	17:42:00

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1	Q. Let's go to the next page. There's another	17:42:03
2	chart, page 13.	17:42:04
3	Who wrote this chart?	17:42:06
4	A. Same person who prepared the previous chart.	17:42:10
5	Q. And how many angles did you check in this	17:42:14
6	one?	17:42:15
7	A. Again, I would -- I believe I checked maybe	17:42:20
8	six.	17:42:20
9	Q. And how did you know that the data that	17:42:23
10	Uber's lawyers were relying on was accurate?	17:42:27
11	A. I would say there's a certain level of	17:42:40
12	expectation of accuracy when you're pulling data out	17:42:45
13	of a spreadsheet into another spreadsheet.	17:42:47
14	Q. You mean you were relying on Uber's lawyers	17:42:50
15	to give you accurate data?	17:42:52
16	MR. KIM: Objection; form.	17:42:53
17	THE WITNESS: I was relying on Uber's lawyers to	17:42:58
18	do the obvious simple thing, cut and paste from a	17:43:01
19	spreadsheet, and not inject an errors by manually	17:43:05
20	changing numbers.	17:43:07
21	BY MR. JAFFE:	17:43:07
22	Q. You see it says "Current" here?	17:43:09
23	A. Yes.	17:43:09
24	Q. Where did Uber's lawyers get the numbers that	17:43:13
25	go in the "Current" column?	17:43:15

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1 A. What is this document called? This would be 17:43:24
2 from Exhibit 155. 17:43:26

3 Q. How do you know that? 17:43:28

4 A. Because she said so. 17:43:30

5 Q. Uber's lawyer told you that she derived these 17:43:35
6 numbers from Exhibit B? 17:43:37

7 MR. KIM: I'm going to object on grounds of 17:43:41
8 privilege and instruct you not to answer that. 17:43:45

9 BY MR. JAFFE: 17:43:45

10 Q. So again, I just want to ask, how do you know 17:43:50
11 the numbers that say "Current" here where they were 17:43:58
12 derived from? And wait for your counsel to object, if 17:44:02
13 he does. 17:44:03

14 A. I would inspect Exhibit 155 in the theta 17:44:14
15 column for these boards to find the angles that match. 17:44:22

16 THE REPORTER: To find the angles that . . . 17:44:22

17 MR. JAFFE: Excuse me.

18 THE WITNESS: To find the angles that match.

19 BY MR. JAFFE:

20 Q. Mr. Haslim, I'm not asking what you would do. 17:44:26
21 I'm asking what happened. 17:44:28

22 A. So as I said, I compared some number, maybe 17:44:34
23 six, of the angles under "Current" against the angles 17:44:41
24 listed under the theta column in Exhibit 155. 17:44:46

25 Q. Where do the numbers from the "Current" 17:44:48

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1 column come from in your declaration? 17:44:51
2 A. They came from the spreadsheet that we're 17:44:59
3 printing out and calling Exhibit 155. 17:45:02
4 Q. And how do you know that? How did you know 17:45:05
5 that at the time? 17:45:05
6 A. How did I know to look there as a source? 17:45:09
7 Q. No. How did you know that the source of 17:45:11
8 these numbers were from that spreadsheet before you 17:45:14
9 signed your declaration? 17:45:16
10 A. So in the process of developing this 17:45:20
11 document, I was in communication with Uber's counsel. 17:45:24
12 Q. So Uber's lawyers told you that these numbers 17:45:29
13 come from the "Current" number and they sent them to 17:45:32
14 you and that's the basis of your understanding that 17:45:34
15 these numbers actually are current? 17:45:36
16 MR. KIM: I'm going to object on the grounds of 17:45:39
17 privilege and instruct you not to answer the question 17:45:42
18 to the extent it asks what Uber's lawyers told you. 17:45:48
19 THE WITNESS: I would refer to my discussion with 17:45:50
20 Uber's lawyer for the source of the information that 17:45:55
21 allows me to go back and check myself at least some of 17:45:59
22 the numbers with the belief that the other numbers in 17:46:02
23 between for every logical reason should be the correct 17:46:06
24 numbers. 17:46:07
25 BY MR. JAFFE: 17:46:07

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1	Q. But you didn't check that before you signed	17:46:09
2	your declaration; right?	17:46:11
3	MR. KIM: Objection; form.	17:46:12
4	THE WITNESS: I did not recall checking all 32	17:46:20
5	angles in this table, or 64 as the case may be.	17:46:24
6	BY MR. JAFFE:	17:46:24
7	Q. So you couldn't -- at the time you signed	17:46:28
8	this declaration, you couldn't say that what's in here	17:46:35
9	actually does represent all the current angles because	17:46:39
10	you didn't check each one?	17:46:41
11	MR. KIM: Objection; form.	17:46:42
12	THE WITNESS: I really believe without checking	17:46:44
13	every single one, I could have a very high reasonable	17:46:48
14	confidence that they are correct.	17:46:50
15	BY MR. JAFFE:	17:46:50
16	Q. Because you believe Uber's lawyers?	17:46:52
17	MR. KIM: Objection; form.	17:46:55
18	THE WITNESS: Because I checked the beginning and	17:46:57
19	the end and have every reason to believe that a cut	17:47:02
20	and paste from one spreadsheet to another would be	17:47:05
21	without error.	17:47:05
22	BY MR. JAFFE:	17:47:05
23	Q. But what spreadsheet did it come from?	17:47:09
24	A. The spreadsheet that's printed out in Exhibit	17:47:13
25	155.	17:47:13

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1	Q. How do you know that?	17:47:14
2	A. By talking to the lawyer.	17:47:16
3	Q. So Uber's lawyer told you that he or she cut	17:47:20
4	and paste out of a spreadsheet and put it into this	17:47:23
5	chart?	17:47:23
6	MR. KIM: Objection; calls for privileged	17:47:26
7	information. Instruct you not to answer to the extent	17:47:29
8	it's asking you what Uber's lawyers told you.	17:47:31
9	MR. JAFFE: This is waived.	17:47:33
10	I mean, the only basis for him to say that this is	17:47:35
11	current is what a lawyer told him, so that's not a	17:47:39
12	proper privilege instruction.	17:47:40
13	MR. KIM: He's already told you that it's based on	17:47:42
14	communications with his lawyers. You're not entitled	17:47:45
15	to know exactly what his lawyers told him.	17:47:47
16	MR. JAFFE: I'm entitled to know exactly that.	17:47:49
17	MR. KIM: Disagree.	17:47:50
18	BY MR. JAFFE:	17:47:50
19	Q. Mr. Haslim, what did Uber's lawyers tell you	17:47:56
20	was the source of the data in the "Current" column?	17:47:59
21	MR. KIM: Same objection with instruction not to	17:48:01
22	answer.	17:48:02
23	You can answer that question generally if	17:48:08
24	you can without revealing the exact -- the	17:48:12
25	specific communications that you've had with the	17:48:14

1 lawyer. But I think you've already done that. 17:48:17

2 Can you rephrase the question to avoid asking 17:48:24

3 with him what Uber's lawyers told him? 17:48:26

4 BY MR. JAFFE: 17:48:26

5 Q. I'm asking him, what is the basis for his 17:48:30

6 knowledge, to the extent that he has any, about where 17:48:33

7 the data in the "Current" column in your declaration 17:48:36

8 came from? 17:48:38

9 A. I'll have to say my knowledge of where the 17:48:42

10 data in the "Current" column came from would come from 17:48:47

11 inspecting where I believed it came from and finding a 17:48:51

12 reasonable match from some number of channels that 17:48:55

13 begin the pattern and end the pattern. 17:48:57

14 Q. How did you know to look in that document? 17:49:01

15 A. Discussion with counsel. 17:49:05

16 Q. Okay. So let me start again. What was your 17:49:07

17 basis for understanding that what's in the "Current" 17:49:10

18 column actually reflects anything in Fuji? 17:49:13

19 A. Again, my basis for understanding what was 17:49:18

20 reflected in the "Current" column reflects what was 17:49:21

21 actually built in Fuji was to compare some subset of 17:49:26

22 the numbers at least to the angles in a document that 17:49:29

23 I know was used to build Fuji. 17:49:33

24 Q. So again, for the chart on page 13 here, you 17:49:37

25 didn't prepare that chart; right? 17:49:39

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1	MR. KIM: Objection; form.	17:49:42
2	THE WITNESS: I did not prepare this spreadsheet	17:49:44
3	chart.	
4	BY MR. JAFFE:	17:49:45
5	Q. It came to you fully formed with the current	
6	column and the November 16th column already populated;	
7	right?	
8	A. Yes.	17:49:52
9	Q. And you only checked a couple of the angles;	17:49:55
10	right?	17:49:55
11	A. I checked more than a couple, but I checked a	17:50:00
12	subset of the angles.	17:50:01
13	Q. And what about the November 16th one, how	17:50:04
14	many of those did you check?	17:50:05
15	A. I would have -- I don't remember exactly how	17:50:09
16	many I checked.	17:50:09
17	Q. Do you remember checking any?	17:50:11
18	A. Yes.	17:50:12
19	Q. More than one?	17:50:15
20	A. Yeah. It would have been more than one, but	17:50:17
21	I don't remember exactly how many.	17:50:19
22	Q. What else in your declaration did you rely on	17:50:23
23	representations from counsel about?	17:50:25
24	A. Annotations in Figure 2B.	17:50:45
25	Q. That's relied on by counsel?	17:50:48

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1 A. Counsel created the annotations. I looked at 17:50:52
2 it, thought it looked correct. 17:50:55

3 Q. What about -- let's go to page 4. 17:51:02

4 A. Okay. 17:51:03

5 Q. Do you see there's some large footnotes 17:51:06
6 there? 17:51:07

7 A. Yes. 17:51:07

8 Q. Who provided those references? 17:51:09

9 A. I did. 17:51:10

10 Q. And where did you find them? 17:51:12

11 A. On the web. 17:51:13

12 Q. So you went out and found each of those? 17:51:16

13 A. Yes. 17:51:16

14 Q. And the iXBlue one that you're referring to? 17:51:20

15 A. IXBlue, yes.

16 Q. IXBlue, excuse me. 17:51:23

17 Do you know when that specialty fiber web 17:51:27

18 page first was published? 17:51:29

19 A. No. 17:51:29

20 Q. Do you know if it was published before or 17:51:31

21 after you started designing [REDACTED] [REDACTED]
[REDACTED] 17:51:39

23 A. I don't know. 17:51:40

24 Q. Again on page 5 looking at Figure 4, do you 17:51:43

25 know whether that website was posted before or after 17:51:46

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1	the conversation with Mr. Levandowski?	17:51:47
2	A. I don't know.	17:51:48
3	Q. Is there anything else in the declaration in	17:51:54
4	which you're relying on representations from Uber's	17:51:59
5	lawyers?	17:51:59
6	MR. KIM: Objection; form.	17:52:01
7	THE WITNESS: Figure 6, I relied on Uber's lawyers	17:52:06
8	to excerpt this section from the spreadsheet.	17:52:09
9	Figure 7A and 7B, I relied on Uber lawyer to put	17:52:20
10	down these files that were sourced by somebody	17:52:23
11	else.	17:52:24
12	BY MR. JAFFE:	17:52:24
13	Q. Who were they sourced by?	17:52:26
14	A. I'm fairly certain they would be sourced by	17:52:29
15	Gaetan.	17:52:29
16	Q. So Gaetan provided these pictures?	17:52:31
17	A. I believe so, yes.	17:52:32
18	Q. Did you talk to Gaetan about what you wanted	17:52:34
19	to provide, what you wanted him to put in here?	17:52:37
20	MR. KIM: Objection; form.	17:52:39
21	THE WITNESS: No.	17:52:39
22	BY MR. JAFFE:	17:52:39
23	Q. What was your understanding of what	17:52:41
24	Mr. Pennecot went out and looked for?	17:52:44
25	A. My understanding was these were documents	17:52:52

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1 that were already produced and were gathered for the 17:52:55
2 purpose of this declaration. 17:52:57

3 Q. And it refers to [REDACTED] [REDACTED]
[REDACTED] 17:53:03

5 A. Yes. 17:53:03

6 Q. Has the FAC lens in Fuji always been 17:53:12
7 [REDACTED] 17:53:14

8 THE REPORTER: I'm sorry, can you repeat that? 17:53:14

9 BY MR. JAFFE:

10 Q. Has the FAC lens in Fuji always been
11 [REDACTED]
12 A. I've only known it to be [REDACTED] 17:53:19

13 Q. So you've never seen a version of a FAC lens 17:53:23
14 that is [REDACTED] 17:53:24

15 A. No, not to my knowledge. 17:53:26

16 Q. And would it surprise you if Uber -- go 17:53:29
17 ahead. 17:53:29

18 A. You left the question very general and I 17:53:32
19 answered too quickly. I've never seen [REDACTED]
[REDACTED] 17:53:41

21 Q. What other design have you seen? 17:53:47
22 [REDACTED] [REDACTED]
[REDACTED] 17:53:54

24 Q. In terms of the custom FAC lens that includes 17:53:57
25 a cylindrical optical surface, have you ever seen one 17:54:01

1 of those? 17:54:02
2 MR. KIM: Objection; form. 17:54:03
3 THE WITNESS: Are you asking about anywhere? 17:54:05
4 BY MR. JAFFE: 17:54:05
5 Q. At Uber or Otto. 17:54:07
6 A. If -- I don't know of seeing a cylindrical 17:54:12
7 custom FAC lens at Otto. 17:54:14
8 Q. And you don't know whether Fuji ever had a 17:54:19
9 cylindrical FAC lens ever? 17:54:22
10 A. To my knowledge, [REDACTED] [REDACTED]
[REDACTED] [REDACTED]
[REDACTED] 17:54:32
13 Q. What about [REDACTED], are you familiar 17:54:34
14 with that? 17:54:35
15 A. I've seen the name [REDACTED] 17:54:38
16 Q. What is that? 17:54:39
17 A. I believe it's the FAC lens. 17:54:41
18 Q. And do you know whether there are any 17:54:43
19 versions of that design that had a cylindrical optical 17:54:46
20 surface? 17:54:47
21 A. I'm not aware. If there were, I'm not aware 17:54:50
22 of them. So we have to go back to Gaetan's design 17:54:52
23 record to see if he started with a cylindrical design. 17:54:57
24 Q. So we talked about some of the charts where 17:55:00
25 you said that you relied on Uber's counsel. 17:55:04

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1	What about any of the text? Are any of the	17:55:05
2	numbers in here, do they come from Uber's counsel as	17:55:09
3	opposed to you?	17:55:10
4	A. A large part of the text, perhaps the bulk of	17:55:17
5	the text in this declaration, came from Uber's	17:55:20
6	counselors.	17:55:20
7	Q. Okay. So they provided you basically all the	17:55:24
8	text in this draft; is that fair?	17:55:26
9	MR. KIM: Objection; form.	17:55:28
10	THE WITNESS: It's a little too much to say "all,"	17:55:30
11	but I could say more than half and that I was given an	17:55:33
12	opportunity to edit.	17:55:37
13	BY MR. JAFFE:	17:55:37
14	Q. Okay. So I want to go back to my original	17:55:43
15	question which was, what part of the text are you	17:55:47
16	relying on representations from Uber's lawyers for	17:55:50
17	purposes of your declaration?	17:55:52
18	A. Since Uber's lawyers originated most of the	17:56:13
19	text, I relied on Uber's lawyers to originate most of	17:56:18
20	the text in here.	17:56:19
21	Q. Meaning, most of the text you're relying on	17:56:26
22	on their representations; is that fair?	17:56:29
23	A. I'm relaying on their --	17:56:30
24	MR. KIM: Objection; form.	17:56:31
25	THE REPORTER: I'm relaying on their . . .	

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1 THE WITNESS: I'm relying on their origination. 17:56:37
2 BY MR. JAFFE: 17:56:37
3 Q. So for example, looking at page 13, there's a 17:56:43
4 chart comparing Spider and Fuji. Uber's lawyer came 17:56:49
5 up with that chart; right? 17:56:51
6 MR. KIM: Objection; form. 17:56:52
7 THE WITNESS: Yes. 17:56:53
8 BY MR. JAFFE: 17:56:53
9 Q. The idea -- going back to page 8, the idea of 17:57:09
10 excerpting what's in Figure 6, was that -- did that 17:57:14
11 idea come from Uber's lawyers? 17:57:17
12 MR. KIM: Objection; form. Also on grounds of 17:57:20
13 work product. 17:57:25
14 THE WITNESS: I presume it was. 17:57:30
15 BY MR. JAFFE: 17:57:30
16 Q. And going back to -- 17:57:42
17 MR. KIM: How long have we been going on the 17:57:57
18 record? 17:57:58
19 THE VIDEOGRAPHER: The entire time? 17:57:59
20 MR. KIM: Yes. Oh, just since the last break. 17:58:05
21 THE VIDEOGRAPHER: 54 minutes. 17:58:07
22 MR. JAFFE: I'm referring to your original 17:58:32
23 declaration. Let's go to your original declaration, 17:58:32
24 please.
25 MR. KIM: I'm going to object to this whole line 17:58:34

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1	of questioning as outside the scope of recross.	17:58:39
2	BY MR. JAFFE:	17:58:39
3	Q. Did Uber's lawyers, did they prepare your	17:58:42
4	original declaration as well?	17:58:44
5	MR. KIM: Objection; form.	17:58:45
6	THE WITNESS: I would say Uber's lawyers	17:58:54
7	originated most of this declaration.	17:58:58
8	BY MR. JAFFE:	17:58:58
9	Q. What percentage of the words in your original	17:59:00
10	declaration came from Uber's lawyers?	17:59:03
11	MR. KIM: Objection; form.	17:59:07
12	THE WITNESS: I don't know what the percentage is.	17:59:08
13	BY MR. JAFFE:	17:59:08
14	Q. Over 80 percent?	17:59:10
15	MR. KIM: Objection; form, outside the scope.	17:59:14
16	THE WITNESS: Yeah, I'm not sure.	17:59:18
17	I know I had some textural editing input to this	17:59:25
18	document, but I don't remember like percentagewise	17:59:26
19	on the words. It was less than half.	17:59:31
20	BY MR. JAFFE:	17:59:31
21	Q. But in terms of the drafting, they sent you a	17:59:34
22	full draft of your declaration?	17:59:36
23	MR. KIM: Objection; form.	17:59:38
24	BY MR. JAFFE:	17:59:38
25	Q. Is that right?	17:59:39

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1	A. Yes, I got --	17:59:44
2	MR. KIM: Outside the scope of redirect. Recross.	17:59:47
3	THE WITNESS: Yes. I got a more or less complete	17:59:51
4	draft from Uber's lawyers.	17:59:54
5	BY MR. JAFFE:	17:59:54
6	Q. And I want to take you particularly to page	17:59:56
7	12 of your original declaration.	18:00:00
8	A. Okay.	18:00:03
9	Q. Do you see where you refer to	18:00:06
10	Mr. Levandowski's input?	18:00:08
11	A. Yes.	18:00:16
12	Q. What did you do -- well, let me start this,	18:00:19
13	was this paragraph drafted by Uber's lawyers?	18:00:22
14	MR. KIM: Objection; form outside the scope.	18:00:26
15	THE WITNESS: I believe they wrote the first draft	18:00:32
16	of this.	18:00:33
17	BY MR. JAFFE:	18:00:33
18	Q. And what did you do to verify before signing	18:00:38
19	your declaration that what's here in paragraph 19 and	18:00:43
20	written by Uber's lawyers was true and accurate based	18:00:46
21	on your personal knowledge?	18:00:48
22	A. I used my personal knowledge, my personal	18:00:55
23	experience, my recollection, read this, agreed. To my	18:01:02
24	knowledge, to the best of my knowledge, that the	18:01:04
25	statement in paragraph 19 was true.	18:01:06

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1 Q. So Uber's lawyers sent you paragraph 19. You 18:01:09
2 said looks good and you signed it? 18:01:11
3 MR. KIM: Objection; form. 18:01:12
4 THE WITNESS: They sent me 19. I may have made an 18:01:15
5 edit in it. I don't recall. And then gave that edit 18:01:21
6 back. Got a final draft, read through, and signed it. 18:01:25
7 BY MR. JAFFE: 18:01:25
8 Q. What was the edit you gave to paragraph 19 to 18:01:27
9 make it accurate? 18:01:28
10 MR. KIM: Objection; form. 18:01:35
11 THE WITNESS: I may have suggested that we make a 18:01:39
12 strong statement as possible regarding the 14,000 18:01:44
13 files having not seen any evidence of that in the 18:01:48
14 development of this sensor. 18:01:49
15 BY MR. JAFFE: 18:01:49
16 Q. Anything else? 18:01:51
17 A. I don't recall. 18:01:55
18 Q. So for purposes of the first sentence here 18:01:59
19 about Mr. Levandowski never had nor currently has any 18:02:03
20 design input, that was written wholesale by Uber's 18:02:08
21 lawyers? 18:02:08
22 MR. KIM: Objection; form. 18:02:10
23 THE WITNESS: I don't recall if I may have -- if I 18:02:13
24 had made any edits to this first sentence or not. 18:02:16
25 BY MR. JAFFE: 18:02:16

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1 Q. And what did you do to verify -- well, 18:02:19
2 actually I think you already said this. 18:02:21

3 You didn't do anything to verify that this 18:02:24
4 statement was accurate in paragraph 19 of your 18:02:27
5 declaration after it was provided to you by Uber's 18:02:30
6 lawyers; right? 18:02:31

7 MR. KIM: Objection; form. 18:02:37

8 THE WITNESS: I did no investigation to verify 18:02:40
9 that the statements made in paragraph 19 were 18:02:46
10 absolutely true. 18:02:49

11 BY MR. JAFFE: 18:02:49

12 Q. Did you talk to Mr. Levandowski? 18:02:52

13 A. No. 18:02:52

14 Q. Okay. All right. So what parts of your 18:03:03
15 original declaration are you relying on information 18:03:08
16 from Uber's lawyers? 18:03:11

17 A. Can you be specific when you say relying on 18:03:21
18 the Uber's lawyers. 18:03:25

19 Q. The basis for it being in your declaration is 18:03:28
20 something provided to you by counsel. 18:03:32

21 MR. KIM: Objection; form. 18:03:35

22 THE WITNESS: Again, this document was, in the 18:03:41
23 majority, sourced by lawyers for Uber. 18:03:47

24 BY MR. JAFFE: 18:03:47

25 Q. So you would say the majority of the document 18:03:49

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1 you're relying on information from counsel; is that 18:03:51
2 right? 18:03:52

3 A. For the majority of the document, I'm relying 18:03:58
4 on Uber's counsel to originate the document. I'm not 18:04:01
5 necessarily relying on them. If you're implying -- 18:04:04

6 Q. Let me -- 18:04:04

7 MR. KIM: Let him finish. 18:04:06

8 BY MR. JAFFE: 18:04:06

9 Q. That's fine. Let me be more clear. 18:04:10

10 MR. KIM: Wait. Are you cutting off the witness 18:04:11
11 here? 18:04:12

12 MR. JAFFE: I think I'm trying to clarify. I'll 18:04:16
13 withdraw the prior question. 18:04:18

14 BY MR. JAFFE:

15 Q. I want to understand what facts are in your 18:04:20
16 declaration that you relied on from counsel. 18:04:24

17 A. I'm still having a hard time understanding 18:04:27
18 when you say relying on counsel for facts, whether 18:04:31
19 you're implying I'm relying on Uber's counsel for the 18:04:35
20 veracity or whether I'm relying on Uber's counsel to 18:04:39
21 put that information into the declaration. 18:04:41

22 Q. That's fair. Let me help clarify this. 18:04:43

23 So what I'm trying to get at is, were you 18:04:48
24 relying on Uber's counsel for the basis of these 18:04:51
25 facts, that is, you don't have independent personal 18:04:52

1 [REDACTED] [REDACTED]

2 [REDACTED] 18:12:20

3 BY MR. JAFFE:

4 Q. Okay. Going back to your declaration here, 18:12:25

5 we're looking at paragraph 18. 18:12:26

6 MR. KIM: Jordan, how long do you plan on going? 18:12:30

7 It's about 6:10. Been going over an hour since the 18:12:34

8 last break. 18:12:35

9 MR. JAFFE: Just kind of keep going. 18:12:37

10 MR. KIM: Yeah, well -- I think we should take a 18:12:40

11 break. 18:12:40

12 MR. JAFFE: Why don't we do this quick question 18:12:44

13 and then we'll take a break. 18:12:45

14 BY MR. JAFFE:

15 Q. Are you looking at paragraph 18 of your 18:12:47

16 original declaration? 18:12:49

17 A. Yes. 18:12:51

18 Q. So you referred to this in the redirect 18:12:55

19 testimony. You talked about the custom beam spacing 18:12:58

20 and angle summary Scott provided. 18:13:01

21 Do you see that? 18:13:02

22 A. Yes. 18:13:02

23 Q. So at the bottom of the page -- and this is 18:13:07

24 what we talked about earlier today, you said my team 18:13:10

25 imported the data. 18:13:11

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1	Do you see that?	18:13:12
2	A. Yes.	18:13:12
3	Q. And based on what you talked about with	18:13:14
4	Mr. Kim, Uber's lawyer, it was Mr. Pennecot that	18:13:18
5	imported the data into Zemax; right?	18:13:21
6	A. Yes.	18:13:22
7	Q. And it was Mr. Pennecot that then determined	18:13:25
8	the resultant emitting points of the laser diodes;	18:13:29
9	right?	18:13:29
10	A. Yes.	18:13:29
11	Q. And it was Mr. Pennecot that then exported it	18:13:33
12	into CAD software; right?	18:13:36
13	A. Yes, that's my understanding.	18:13:38
14	Q. And so Mr. Pennecot was the one who actually	18:13:42
15	came up with [REDACTED]	18:13:47
16	based on Mr. Boehmke's beam angles; isn't that right?	18:13:51
17	A. No, I don't think so.	18:13:52
18	Q. So what Mr. Pennecot exported into CAD	18:13:56
19	software, that wasn't [REDACTED]	18:14:04
20	A. So if we go back carefully to transcripts,	18:14:07
21	what I should point out is, since this declaration, I	18:14:11
22	have more detailed information of exactly how	18:14:14
23	Mr. Pennecot did his import. To be accurate, I want	18:14:19
24	to say that there's an error in here that he brought	18:14:25
25	the angles into CAD software, brought the lens design	18:14:31

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1 and field curvature shape from Zemax into CAD 18:14:37
2 software. 18:14:37

3 Now you're asking did Mr. Pennecot in fact 18:14:40
4 design the [REDACTED] [REDACTED]

[REDACTED] Mr. Pennecot was dependent on 18:14:50
6 somebody else to tell him how many boards the angles 18:14:53
7 had to be divided among, and then Mr. Pennecot set the 18:14:58
8 positions of the laser diodes onto those boards. 18:15:02

9 Q. Who told Mr. Pennecot to use [REDACTED] 18:15:05

10 A. I told Mr. Pennecot to use [REDACTED] in 18:15:09
11 the optical cavity. 18:15:10

12 Q. Who told him to use [REDACTED] in total? 18:15:13

13 A. I don't think anybody told him to use [REDACTED]
[REDACTED] in total. 18:15:18

15 Q. Who told him to put [REDACTED] [REDACTED]
[REDACTED] 18:15:22

17 A. Mr. Pennecot understood the reason we were 18:15:31
18 going to [REDACTED], so I'll -- with that said, I'm 18:15:35
19 not aware that anybody had to tell him to [REDACTED] [REDACTED]
[REDACTED] 18:15:41

21 Q. You don't know where Mr. Pennecot [REDACTED]
[REDACTED] from? 18:15:45

23 A. No, I know exactly where he got it from. 18:15:48

24 Q. Where did he get it from? 18:15:49

25 A. The need to [REDACTED] 18:15:52

1 If you're asking do I know from whom, no. I would say 18:15:57
2 that he could derive that himself. 18:15:59
3 Q. Okay. So -- but just to be clear, 18:16:04
4 Mr. Pennecot -- you told him [REDACTED] [REDACTED]
[REDACTED] [REDACTED] in the SolidWorks 18:16:13
6 CAD software, and you told him 64 channels and he 18:16:16
7 created [REDACTED]; is that fair? 18:16:21
8 A. I didn't necessarily tell him 64 channels. 18:16:24
9 He got the list of angles that Scott Boehmke had 18:16:28
10 generated. 18:16:29
11 Q. So he knew that there were 64 channels; 18:16:31
12 right? 18:16:31
13 A. Without me telling him. 18:16:33
14 Q. So the sequence of events was there was Scott 18:16:36
15 Boehmke provided beam angles for 64 channels? 18:16:40
16 A. Yes. 18:16:40
17 Q. That went to Mr. Pennecot. He imported that 18:16:45
18 data into Zemax. And after he outputted into CAD 18:16:50
19 software, the result was a design with [REDACTED] [REDACTED]
[REDACTED] [REDACTED] is that 18:17:01
21 right? 18:17:02
22 A. Can you read that back. 18:17:04
23 (Record read by reporter as follows: 18:17:04
24 "Question: He imported that data into Zemax. 18:17:04
25 And after he outputted into CAD software, the

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1 as a whole taken with no prior knowledge that this 19:08:02
2 document does not completely represent accurately what 19:08:06
3 goes into Boards [REDACTED] together as a whole. 19:08:09
4 BY MR. JAFFE: 19:08:09
5 Q. Let me ask the question again. 19:08:11
6 Sitting here today, you cannot -- sitting 19:08:14
7 here today, Exhibit 1060 does not accurately represent 19:08:18
8 what is in Fuji? Yes or no. 19:08:20
9 MR. KIM: Objection; form. 19:08:26
10 THE WITNESS: Yes, but only in the strictest 19:08:29
11 meaning of accuracy. 19:08:33
12 BY MR. JAFFE: 19:08:33
13 Q. What does that mean? 19:08:35
14 A. That means the magnitudes in here match but 19:08:41
15 the sign change has not been consistently applied. If 19:08:45
16 I had to use this data and no other data to build a 19:08:49
17 Fuji, then I would have a problem in the strict sense. 19:08:53
18 Q. I see. Okay. 19:08:54
19 So Exhibit 1060 has some inaccuracies and 19:09:00
20 problems, but it's generally accurate; is that right? 19:09:05
21 A. I'm more comfortable saying that, yes. 19:09:07
22 Q. So you couldn't build Fuji looking at Exhibit 19:09:10
23 1060; right? Using this data? 19:09:12
24 A. Right. 19:09:12
25 Q. And it wouldn't be fair to try and build a 19:09:16

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1 Fuji using just this data; right? 19:09:18
2 MR. KIM: Objection; form. 19:09:20
3 THE WITNESS: It would not render a correct Fuji 19:09:24
4 based on this data only by itself. 19:09:27
5 BY MR. JAFFE: 19:09:27
6 Q. Now, I want to go back to paragraph 19 of 19:09:34
7 your declaration, your original declaration, the 19:09:40
8 sentence about Mr. Levandowski. 19:09:42
9 A. Okay. 19:09:53
10 Q. We talked about this before and you testified 19:09:56
11 that you did no investigation to confirm the sentence 19:10:01
12 in paragraph -- the first sentence in paragraph 19; 19:10:04
13 right? 19:10:04
14 A. Right. 19:10:04
15 Q. And I just want to make sure that it's clear. 19:10:09
16 When you said you did no investigation, did 19:10:11
17 you do anything to confirm this statement before you 19:10:14
18 signed your declaration? 19:10:16
19 MR. KIM: Objection; form. 19:10:21
20 THE WITNESS: I refer to my recollection of how 19:10:23
21 the Fuji was developed, remembered no evidence of 19:10:28
22 Anthony coming in and controlling or designing those 19:10:31
23 aspects of the Fuji. 19:10:33
24 BY MR. JAFFE: 19:10:33
25 Q. Did you talk to anyone to confirm this 19:10:35

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1	statement?	19:10:36
2	A. No.	19:10:38
3	Q. Did you look at any documents to confirm this	19:10:41
4	statement?	19:10:41
5	A. No.	19:10:44
6	Q. Did you talk to anyone else on the LiDAR	19:10:46
7	team?	19:10:47
8	A. No.	19:10:50
9	Q. Okay. Other than consulting your memory, did	19:10:58
10	you do anything to confirm the first sentence of	19:11:00
11	paragraph 19 of your original declaration?	19:11:02
12	A. No, not that I recall.	19:11:12
13	Q. Okay. Let's --	19:11:13
14	MR. KIM: So we've gone 30 minutes on the record.	19:11:18
15	We're going to conclude this deposition	19:11:23
16	as we discussed at the break on the grounds that	19:11:27
17	we've given you more time than we took on	19:11:32
18	redirect, and he's now gone close to seven hours	19:11:35
19	on the record.	19:11:36
20	MR. JAFFE: I understand your position.	19:11:39
21	THE VIDEOGRAPHER: This is the end of today's	19:11:44
22	deposition of Mr. James Haslim.	19:11:46
23	We are off the record at 7:11 p.m.	19:11:50
24	The total number of media used was six and it	19:11:53
25	will be retained by Veritext. Thank you.	19:11:56